

AUSTRALIAN FUNGI.

III. NEW SPECIES AND REVISIONS (CONTINUED).

By C. G. HANSFORD, M.A., Sc.D., F.L.S., Waite Institute, University of Adelaide.

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Synopsis.

The present paper is a continuation of No. ii of this series, and includes revisions of many Australian Fungi found as type specimens in Herb. Kew. It includes 88 recognized species, of which 27 are described as new, and one new genus, *Brooksia*.

ASCOMYCETES.

(184) *MELIOLA DORYPHORAE* Hansf., n. sp.

(2111.6332)

Plagulae epiphyllae, raro amphigenae, usque ad 3 mm. diam., densae, velutinae. Hyphae subrectae vel undulatae, cellulis $20-30\mu \times 7-8\mu$, oppositae ramosae, dense reticulatae et subsolidae. Hyphopodia capitata alternata, antrorsa vel repentia, recta vel curvula, $30-44\mu$ longa; cellula basali cylindracea vel cuneata, $7-17\mu$ longa; cellula apicali irregulariter fortiterque lobata, recta vel curvata, versiformia, $20-30\mu \times 14-23\mu$. Hyphopodia mucronata illis capitatis commixta, ampullacea, alternata, pauca. Setae myceliales numerosae, dispersae, erectae, rectae, simplices, acutae, usque ad $400\mu \times 7-8\mu$. Perithecia in centro plagularum laxae aggregata, atra, globosa, verrucosa, usque ad 220μ diam. Sporae atrobrunneae, cylindraceae vel subellipsoideae, obtusae, 3-septatae, constrictae, $59-68\mu \times 22-24\mu$.

Hab. in foliis *Doryphorae sassafratis*, Mt. Mitchell, Queensland, Langdon 579, typus.

Colonies mostly epiphyllous, to 3 mm. diam., dense, velvety. Mycelium of substraight to undulate, dark brown hyphae, cells $20-30\mu \times 7-8\mu$, branching opposite at wide angles, densely reticulate and nearly solid. Capitulate hyphopodia alternate, antrorse or spreading, straight or bent, $30-44\mu$ long; stalk cell cylindric to cuneate, straight or antrorse-bent, $7-17\mu$ long; head cell very irregularly and deeply lobate, straight or bent, versiform, $20-30\mu \times 14-23\mu$. Mucronate hyphopodia mixed with the capitulate, alternate, ampulliform, few. Mycelial setae numerous, closely scattered, erect, straight, simple, acute, to $400\mu \times 7-8\mu$. Perithecia in loose central group, black, globose, verrucose, to 220μ diam. Spores cylindric to subellipsoid, obtuse, 3-septate, constricted, $59-68\mu \times 22-24\mu$.

(185) *CHAETOTHYRIUM WOMERSLEYI* Hansf., n. sp.

Plagulae epiphyllae, aegre perspicuae, effusae. Mycelium ex hyphis hyalinis, cellulis $8-20\mu \times 2-4\mu$, irregulariter denesque ramosis, pelliculam hyalinam unistratosam efformantibus, omnino superficiale. Setae nullae. Perithecia dispersa, brunnea vel atro-brunnea, levia, subdiscoidea vel depresso-globosa, membranacea, usque ad 250μ diam. et $80\mu-100\mu$ alt.; paries 1-2-stratosus, hyalinus, tenuis. Asci suberecti, saccati, sursum late rotundati, haud incrassati, breviter nodoso-stipitati vel subsessili, 8-spори, paraphysati, usque ad $80\mu \times 40\mu$. Sporae parallelae, cylindraceae utrinque rotundatae, hyalinae, plerumque curvulae, transverse 9-14-septatae, haud constrictae, $50-65\mu \times 6-7\mu$.

Hab. in foliis *Syzygii* spec., Lae, New Guinea, Womersley (typus WARI 4591 p.p.).

Colonies epiphyllous, scarcely visible save for the very loosely scattered perithecia, effuse, spreading. Mycelium of hyaline hyphae $2-4\mu$ thick, the cells $8-20\mu$ long, closely and irregularly branched and forming a thin transparent pellicle of one layer, easily removed from the leaf, entirely superficial. Around the perithecia the pellicle becomes

pale brownish, deepening to dark brown as it covers the perithecia. Setae and conidia none. Perithecia scattered, dark brown to black-brown, smooth, subdiscoid to flattened globose, thin-walled, covered by the mycelial pellicle adherent to the upper part of the wall, to 250μ diam. and about $80\text{--}100\mu$ high when fresh; wall of 1-2 layers of hyaline parenchyma, very delicate, enclosing at first a ground tissue of hyaline, branched, thin-walled hyphae, which are partly replaced by the developing asci. Asci fairly numerous, suberect from the flat base of the loculus, saccate, broadly rounded at the apex, not thickened, suddenly constricted below into a short wide stipe, or sessile, 8-spored, paraphysate, up to $80\mu \times 40\mu$. Spores parallel in ascus, cylindric with slightly attenuate, rounded ends, usually more or less bent, transversely 9-14-septate, not constricted, hyaline, refringent, $50\text{--}65\mu \times 6\text{--}7\mu$.

(186) *ARNAUDIELLA BANCROFTII* Hansf., n. sp.

Mycelium liberum nullum; thyriothecia dispersa, singula vel 2-3-aggregata, amphigena, atra, orbiculata, depresso-conica, membranacea, usque ad 200μ diam., non fimbriata; paries superior ex hyphis atrobrunneis, irregulariter radiantibus, $4\text{--}5\mu$ cr., ramosissimis compositus, radiato-dehiscens; paries inferior hyalinus, ex hyphis tenuibus, non radiantibus compositus. Asci paraphysati, subglobosi, erecti, 8-sporei, sessili, $30\text{--}40\mu \times 20\text{--}30\mu$, tenuiter tunicati, in maturitate elongati. Sporae parallelae, fusioideae utrinque rotundatae, curvatae, leves, 1-septatae, subinde leniter constrictae, brunnescentes, $18\text{--}20\mu \times 6\text{--}7\mu$.

Hab. in foliis *Eucalypti* spec. indet., Eidsvold, Queensland, T. L. Bancroft 3, Aug. 1913, in Herb. Kew, typus.

Free mycelium absent. Thyriothecia closely scattered, single or in small groups on indeterminate brownish areas of leaf, amphigenous, black, more or less rounded when single, depressed conical, membranous, to 200μ diam., not or very slightly fimbriate at margin; upper wall of irregularly radiating dark brown hyphae $4\text{--}5\mu$ thick, much branched, dehiscent by irregular radiate fissures nearly to the margin. Lower wall hyaline, of fine hyphae, not radiate. The loculus of the young thyriothecium is at first filled with a loose hyaline tissue of more or less erect hyphae, similar to those of the lower wall, and connected with both upper and lower walls, septate, simulating paraphyses. The asci are scattered singly amongst this "ground tissue", which they gradually replace almost completely; at first clavate-ellipsoid, becoming subglobose as the spores develop, erect, sessile, 8-spored, $30\text{--}40\mu \times 20\text{--}30\mu$, thin-walled, again elongating at maturity. Spores more or less parallel in ascus, bent fusoid with rounded ends, becoming pale clear brown, smooth, thin-walled, 1-septate and sometimes slightly constricted in the middle, the cells equal, $18\text{--}20\mu \times 6\text{--}7\mu$. No true paraphyses.

The stomata of the host leaf are filled with dark mycelial plugs, which do not penetrate beyond the closed guard cells. Beneath the thyriothecia and extending radially from them there is a very thin plate of subcuticular hyaline mycelium, without haustoria in the epidermal cells.

(187) *ASTERINA CORREICOLA* Cooke & Mass., *Grevillea*, 16:5, 1886; Cooke, *Handb. Austr. Fungi*, p. 344, 1892.

Colonies epiphyllous, black, rounded, smooth, to 2 mm. diam., usually numerous and confluent, at first thin, becoming dense, and with development of thyriothecia almost solid in centre. Hyphae substraight, cells mostly $15\text{--}20\mu \times 5\text{--}7\mu$, closely and irregularly branched, reticulate. Hyphopodia alternate, rarely opposite, continuous, ellipsoid entire or slightly crenulate around margin, $10\text{--}14\mu \times 7\text{--}10\mu$. Thyriothecia closely crowded and often confluent, black, flattened-conical, radiate; margin not fimbriate; to 200μ diam., dehiscent by radiate fissures almost to the margin; lower wall hyaline, of indistinct structure, very thin. Asci numerous, paraphysate, subglobose, sessile, 8-spored, to $50\mu \times 40\mu$. Spores conglobate, becoming dark brown, oblong with rounded obtuse ends, epispore smooth, 1-septate and rather deeply constricted in the middle, the cells equal and subglobose; $23\text{--}26\mu \times 10\text{--}13\mu$.

On *Correa laurenciana*, Upper Yarra, Victoria, J. G. Luehmann in Herb. Kew, type.

- (188) *ASTERINA EUOMATIAE* (P. Henn.) Theiss., *Abhandl. K.-K. Zool.-Bot. Ges., Wien*, 7:64, 1913.

On *Eupomatia laurina*, Cunningham's Gap, South Queensland, Langdon 1611.

Colonies amphigenous, to 5 mm. diam. or confluent, thin or becoming dense in centre. Mycelium of substraight, radiating, dark brown hyphae, cells $20-30\mu \times 4-5\mu$, branching opposite or irregular at acute angles, becoming rather closely reticulate in centre. Hyphopodia alternate or opposite, more or less antrorse, straight or bent, 2-celled, $9-15\mu$ long; stalk cell cylindric, $3-6\mu$ long; head cell subentire to sinuous or irregularly lobate, straight or variously curved, $5-11\mu \times 5-11\mu$. Thyriothecia rather closely scattered in centre of colony, black, rounded in outline, flattened-convex, radiate; upper wall of radiating dark brown hyphae $4-5\mu$ wide, the cells $4-12\mu$ long, fimbriate at the margin, the fringing hyphae tortuous-radiating, up to 30μ long; dehiscent by a few stellate fissures almost to the margin, into triangular segments; lower wall hyaline, very thin, composed of tortuous-radiating hyphae, very indistinct. Asci about 10, ripening in succession, globose to ovate, sessile, paraphysate, 4-8-spored, $40-45\mu$ diam. Spores long remaining hyaline, finally turning dark brown, oblong with rounded ends, smooth, $22-24\mu \times 10-12\mu$, 1-septate, constricted, the upper cell slightly wider than the lower. No conidial stage seen.

- (189) *ASTERINA PLATYSTOMA* Cooke & Mass., *Grevillea*, 23:8, 1892; Cooke, *Handb. Austr. Fungi*, p. 314, 1892.

On leaves of *Castanospermum* sp., Brisbane, Queensland, Bailey 804, type in Herb. Kew.

Colonies epiphyllous, black, smooth, to 3 mm. diam. or numerous and confluent. Mycelium of substraight dark brown hyphae $4-5\mu$ thick, the cells mostly $8-15\mu$ long, irregularly and closely branched, becoming closely reticulate and almost solid in the centre with the development of the thyriothecia. Thyriothecia round, flattened-conic, black, up to 180μ diam., usually separate but closely contiguous in the older colonies, radiate, not fimbriate at the margin; lower wall indistinct; dehiscent by a few radial slits into wide segments. Asci numerous, maturing in succession, ovate, becoming elongate ellipsoid, widely rounded at apex, sessile, 8-spored. Spores conglobate, or 2-3-seriate in elongated asci, becoming brown, smooth, 1-septate, oblong with rounded ends; constricted, $19-24\mu \times 9-11\mu$, the upper cell slightly wider than the lower.

Hyphopodia alternate, continuous, hemispheric, entire, $6-8\mu$ diam., usually one to each cell of mycelial hyphae.

- (190) *ASTERINA SPONIAE* Rac., *Paras. Algen u. Pilze Java's*, 3:34, 1900. = *Asteromella epitrema* Cooke, *Grevillea*, 20:6, 1892.

On *Trema aspera*, Queensland, Bailey 902 in Herb. Kew as type of *Asteromella epitrema* Cooke, which is the conidial stage.

Colonies epiphyllous, black, orbicular, dense, to 2 mm. diam., closely scattered and often confluent. Mycelium of crooked brown hyphae $3.5-5\mu$ thick, the cells $25-30\mu$ long, branching opposite or irregular, rather closely reticulate with wavy meshes. Hyphopodia alternate or unilateral, sessile, continuous, pulvinate, expanded above and rounded-angulose to sublobate, $8-10\mu$ high by $5-12\mu$ broad. Thyriothecia closely crowded in centre of colony, black, convex, rounded, to 100μ diam., often connate into irregular compound ascomata; lower wall hyaline, indistinct; upper wall of dark brown radiating hyphae 4μ thick with cells up to 7μ long, not fimbriate at margin, dehiscent by stellate fissures extending almost to the margin and the central parts falling away to expose the asci. Asci up to about 10, ripening in succession, paraphysate, ovate to subglobose, sessile, 8-spored, about $45\mu \times 40\mu$. Spores conglobate, brown, oblong with rounded ends, 1-septate, constricted, smooth, $22-24\mu \times 10-12\mu$.

Pycnothecia similar to thyriothecia; lower wall radiate, subhyaline; pycnospores ovate to piriform, rounded at apex, slightly attenuate to truncate basal hilum, uniformly dark brown, smooth, continuous, $10-12\mu \times 6-9\mu$.

This species appears to occur throughout the range of its host plants, species of *Trema*, and has been recorded on *T. cannabina* in New South Wales.

(191) ENGLERULELLA HOMALANTHI Hansf., n. sp.

Plagulae amphigenae, tenues, leves, griseo-brunneae, usque ad 10 mm. diam., saepe confluentes. Mycelium ex hyphis sinuosis, dilute brunneis, oppositae vel irregulariter ramosis, laxe sinuoso-reticulatis compositum, cellulis plerumque 25–30 μ longis. Hyphopodia alternata vel unilateralia, hemiglobosa, integra, continua, 10–14 μ diam., brunnea. Pycnidia in mycelio laxae dispersa, circa 60 μ diam., subglobosa denum late aperta et sub-cupulata, brunnea, glabra, levia; paries unistratosus, parenchymaticus. Pycnosporae dilutissime brunneae, ellipsoideae utrinque obtusae, continuae, leves, plerumque 8 μ \times 4.5 μ .

Perithecia inter pycnidiis dispersa, subglobosa, apice leniter papillata, atro-brunnea, levia, glabra, usque ad 80 μ diam. et ad 120 μ alt.; paries unistratosus, brunneus, parenchymaticus, cellulis angulosis, circa 10 μ diam.; poro apicali dehiscencia. Asci 8–12, basali, haud fasciculati, ellipsoidei, tenuiter tunicati, subsessili, 8-sporei, usque ad 65 μ \times 12–14 μ , apophysati. Sporae brunnescentes, obclavatae utrinque obtusae, 1-septatae, leniter constrictae, leves, 13–14 μ \times 6–7 μ , cellula superiore subglobosa, inferiore leniter longiore, deorsum attenuata.

Hab. in foliis *Homalanthi populifolii*, Queensland, Bailey 923 in Herb. Kew sub *Asteromella homalanthi* Cooke & Mass.

(192) MICROTHYRIUM AMYGDALINUM Cooke & Mass., *Grevillea*, 19:91, 1892; Cooke, *Handb. Austr. Fungi*, p. 312, 1892.

Type on *Eucalyptus amygdalinus* var. *linearis*, Spencer Gulf, South Australia, 1891, W. Gill, in Herb. Kew.

Thyriothechia loosely scattered, amphigenous, single or two to three confluent, rounded, black, smooth, flattened conical, when single 180–200 μ diam., not fimbriate at margin; upper wall of subopaque dark brown radiating hyphae, dehiscent at first by an irregular central pore, extending outwards by a few radial fissures; lower wall hyaline, very thin, of indistinct structure. Asci numerous, paraphysate, bent ellipsoid, centripetally arranged, thin-walled but definitely bitunicate; rounded at apex, sessile or subsessile, 8-spored, 50–60 μ \times 15–20 μ when mature. Spores multiseriate and more or less parallel in the ascus, hyaline, fusoid with rounded ends, smooth, thin-walled, 1-septate and very slightly or not constricted in the middle, the cells equal; becoming pale brown after discharge and then measuring 16–18 μ \times 6–7 μ , inside the ascus only about 5 μ wide.

There is no trace of a superficial mycelium.

(193) VIZELLA GOMPHISFORA (B. & Br.) Hughes, Mycol. Paper, IMI, London 50:97, 1953.

On leaf of *Trochocarpus laurina*, McPherson Range, South Queensland, Langdon 407.

(194) CALYCULOSPHAERIA COLLAPSA (Romell) Fitzpatrick, *Mycologia*, 15:52, 1923.

On bark, Tasmania, Rodway 499 in Herb. Kew.

(195) CRYPTOVALSA ELEVATA (Berk.) Sacc., *Syll. Fung.*, 1:191, 1882.

On dead wood (? *Eucalyptus* sp.), Swan R., Western Australia, Drummond 225 in Herb. Kew.

The grooves of the wood, and to some extent the ridges also, are covered with a thin black, discontinuous stroma, in which the mouths of the perithecia occur closely scattered, scarcely elevated above the general level and marked only by the smooth round area pierced by a central pore, smooth, not sulcate. Perithecia completely immersed in the wood, closely scattered or in longitudinal close groups, ampulliform with rather short neck, the body up to 800 μ diam., globose, thinly carbonous; the neck of rather thicker and harder black tissue, with hyaline lining to the central pore. Asci very numerous, produced over most of the inner surface of the locule, apparently not exuding intact but discharging their spores within the loculus, clavate with short pedicel, each containing 16 spores. Spores distinctly yellow-brown when fully mature, darker in mass, allantoid, continuous, smooth, 13–16 μ \times 4.5–5.5 μ .

(196) *DIDYMELLA ERUMPENS* (Cooke) Hansf., n. comb.

= *Zignoella erumpens* Cooke, *Grevillea*, 21:36. = *Conisphaeria* (*Zignaria*) *erumpens* Cooke, *Handb. Austr. Fungi*, p. 307, 1892.

On twigs of unknown host, Victoria, Martin 948 in Herb. Kew, mixed with *Heptameria obesa* (Dur. & Mont.) Sacc., of which Cooke described the perithecia as belonging to *Z. erumpens*.

Perithecia immersed in bark, with only the slightly rounded, shining, black upper surface showing, scarcely projecting, smooth, glabrous, with central round pore, flattened-globose, to 280μ diam.; wall membranous, not carbonaceous nor brittle, parenchymatous, composed of dark brown angular cells $8-16\mu \times 6-7\mu$, sometimes in indefinite radiating series. Asci basal, numerous, erect, clavate-cylindric, rounded and very slightly thickened at the apex when young, short-stipitate, 8-spored, up to $90\mu \times 10-14\mu$. Paraphyses numerous, filiform, simple, hyaline, somewhat exceeding the asci. Spores obliquely 1-2-seriate, hyaline, ellipsoid with rounded ends, 1-septate and very slightly constricted in middle, smooth, $14-19\mu \times 5-6.5\mu$.

(197) *EUDIMERIOLUM NEOLITSEAE* Hansf., n. sp.

Plagulae hypophyllae, brunneae, usque ad 15 mm. diam. Mycelium superficialum ex hyphis tortuosis, ramosis, exhyphopodiatibus, $3-4\mu$ crassis (cellulis circa 10μ longis), compositum, in stomatibus folii penetrans. Perithecia laxe gregaria, atrobrunnea, subglobosa, glabra, membranacea, $50-60\mu$ diam., sessilia, sursum attenuato-rotundata et apice perforata; paries parenchymaticus, verisimiliter unistratosus. Asci 3-5, basali, ellipsoidei vel subsaccati, aparaphysati, 8-sporei, apice rotundati, leniter incrassati, sessili, $35-45\mu \times 12-15\mu$. Sporae multi-seriatae, subparallelae, hyalinae, oblongae utrinque rotundatae, 1-septatae, haud constrictae, leves, $13-16\mu \times 3.5-4\mu$, cellulis aequalibus.

Hab. in foliis *Neolitseae dealbatae*, Cunningham's Gap, Queensland, Langdon 1622 (typus); in foliis *Cinnamomi oliveri*, loc. cit., Langdon 1610.

Colonies hypophyllous, dark brown, to 15 mm. diam., causing a brownish leafspot visible on the upper surface; consisting of many small groups of minute perithecia borne upon a dark brown external mycelium of crooked, closely branched, exhyphopodiate hyphae, the cells about $10\mu \times 3-4\mu$. These groups of perithecia with their superficial mycelium are $100-300\mu$ diam., though often confluent and larger, each consisting of 2 to about 10 perithecia. The external mycelium is connected through the host stomata to a hyaline intercellular mycelium, without haustoria, in the mesophyll. Perithecia dark brown, subglobose, glabrous, membranous, $50-60\mu$ diam. and $50-70\mu$ high, sessile on the mycelium, the apex rounded-attenuate and with indistinct central pore; wall parenchymatous, apparently of a single layer of angular small cells, enclosing at first a hyaline loosely fibrous tissue, which disappears as the asci mature. Asci 3-5, basal, ellipsoid to subsaccate, aparaphysate, 8-spored, rounded and slightly thickened at apex, sessile, $35-45\mu \times 12-15\mu$, ripening in succession. Spores multiseriate and parallel in ascus, hyaline, oblong with rounded ends, 1-septate, not constricted, smooth, $13-16\mu \times 3.5-4\mu$, the cells equal. No conidial stage seen.

(198) *MASSARIA AUSTRALIS* Cooke, *Grevillea*, 13:65, 1885; Cooke, *Handb. Austr. Fungi*, p. 308, 1892.

Type on bark, Melbourne, 365 in Herb. Kew (? leg. Campbell).

Perithecia scattered loosely, immersed with erumpent black ostiole, which is often flattened laterally like *Lophiostoma*, but usually does not protrude, or only very slightly, from the bark; perithecial body entirely immersed in the rotten wood underlying, and there thinly membranous, black, up to 280μ diam., the wall closing in above through the bark and there hard and carbonous, brittle. Asci basal, numerous, clavate-cylindric, 8-spored; paraphyses narrow filiform, simple. Spores 1-3-seriate and overlapping, soon becoming dark brown, bent fusoid with obtuse ends, 1-septate and constricted in middle, the cells equal, smooth, $45-50\mu \times 15-18\mu$.

(199) *PHYLLACHORA LANGDONII* Hansf., n. sp.

Perithecia dispersa, singula vel 2-aggregata, amphigena, plerumque epiphylla, punctiformia, circa 400μ diam., atra, leniter elevata (usque ad 150μ), immersa; paries tenuis, subhyalinus, concentrice fibrosus, sursum clypeo epidermali adnatus. Asci basali, cylindracei vel clavulati, apice rotundati, breviter stipitati, 8-sporei, usque ad $140\mu \times 17\mu$; paraphyses numerosae, ascos aequantes, filiformes, septatae, simplices. Sporae 1-2-seriatae, hyalinae, ellipsoideae, leves, continuuae, $18-23\mu \times 7-8\mu$.

Hab. in foliis *Callistemonis* spec., Kilcoy Creek, Queensland, Langdon 1412.

Perithecia scattered singly, rarely in groups of 2, loosely or closely over the leaf, amphigenous but not opposite, mainly epiphyllous, appearing as black, round, shining dots about 400μ diam. In section they show as elevated (to 150μ above surface), depressed-globose loculi, about 400μ diam. and 250μ high, resting on a flat base and replacing the palisade tissue, opening by an apical pore lined with short periphyses; wall at sides and base very thin, and passing outwards into loose mycelial hyphae intercellular in the mesophyll. Epidermal clypeus only above the perithecium, up to 60μ thick, composed of opaque black-brown cells and covered by the host cuticle, adnate with the upper part of the perithecial wall. Asci mainly basal, cylindric to clavulate, rounded but not thickened at the apex, attenuate below into short narrow stipe, 8-spored, up to $140\mu \times 17\mu$. Spores 1-2-seriate, sometimes oblique, but usually parallel and overlapping, hyaline, continuous, narrow ellipsoid, smooth, $18-23\mu \times 7-8\mu$. Paraphyses numerous, equalling the asci, filiform, $1.5-2.5\mu$ wide, definitely septate, simple, not swollen at apex. The perithecia are not on leafspots, nor surrounded by yellow zones.

(200) *PHYLLACHORA QUEENSLANDICA* Hansf., n. sp.

Stromata laxa dispersa, atra, nitida, epiphylla, usque ad 1.5 mm. diam., leniter convexa, crassitudinem totam folii occupantia, in utramque epidermidem clypeum efformantia. *Perithecia* usque ad 8 in stromate uno, depresso-globosa, usque ad 400μ diam. et ad 300μ alt.; paries subhyalinus, concentrice fibrosus. Asci numerosi, basali, clavulato-cylindracei, apice attenuato-rotundati, haud incrassati, subsessili vel breviter stipitati, 8-sporei, usque ad $170\mu \times 30\mu$; paraphyses paucae, filiformes. Sporae oblique 2-seriatae, ellipsoideae, obtusae, hyalinae, continuuae, leves, $28-32\mu \times 9-12\mu$, episporio circa 1μ cr., extus muco inclusae.

Hab. in foliis *Litsea dealbatae*, Mt. Budarin, Queensland, C. T. White, 1912, typus in Herb. Kew.

Stromata loosely scattered, at first on the unchanged leaf, but where loosely aggregated the leaf dying and turning brown over a wide area, after each stroma has become surrounded by a yellow-brown zone. Stromata black, shining, somewhat convex and rounded above the individual perithecia, up to 1.5 mm. diam., epiphyllous; on lower surface marked by grey-black, rather indefinite areas beneath the leaf tomentum, slightly convex; occupying the whole thickness of the leaf, and with a clypeus in both upper and lower epidermis, extending into the mesophyll as an opaque black-brown stroma about 60μ thick below and to 90μ thick on upper side, the intervening leaf tissue being more or less unchanged save immediately around the perithecia, but penetrated by subhyaline or hyaline intercellular hyphae, which are septate and extend much beyond the stromata.

Perithecia up to about 8 in single stromata, flattened-globose, the loculus up to 400μ diam. and to 300μ high, surrounded by a subhyaline wall of concentric fibrous tissue, passing internally into the subhymenial loose tissue below, and into a rather thick layer of parallel periphyses above, which extend to the round apical pore, from which in some cases they protrude in young stages. The perithecia are separated by stroma tissue, consisting of more or less parallel, brown, septate hyphae. Asci with a few hyaline filiform paraphyses, doubtfully septate, at first exceeding the asci, but at full maturity the asci almost aparaphysate; large, clavulate-cylindric, attenuate-rounded and not markedly thickened at the apex, at the base attenuate into a short wide stalk, or sometimes subsessile, thin-walled, 8-spored, to $170\mu \times 30\mu$. Spores obliquely 2-seriate and overlapping, ellipsoid, obtuse, hyaline, smooth, continuous, $28-32\mu \times 9-12\mu$, the spore wall about 1μ thick, and surrounded by a mucilaginous envelope up to $5-6\mu$ thick.

(201) *PLACOSTROMA EUCALYPTI* (Cooke & Mass.) Hansf., n. comb.= *Phyllachora eucalypti* Cooke & Masee, *Grevillea*, 16:5, 1887.Type on leaf of *Eucalyptus* sp., Bunyip, Victoria, March 1887 (? Martin).

Stromata epiphyllous, black, smooth, almost hemispheric, with some indication of the underlying perithecia as rounded swellings with minute central pores on the surface; up to 2 mm. diam., shining. In section the stromata are seen to develop between the palisade tissue, unaltered save for penetration by loose intercellular hyaline hyphae causing a little browning of some cells, and the epidermis, which is filled with the clypeus of black, opaque parenchyma; the mature stroma remains covered by the cuticle and the upper half of the epidermis, forming the shining exterior surface, penetrated only by the apical pores of the perithecia. Within the leaf, and between the perithecia, the stroma is up to 300μ thick, composed of brown-black parenchyma, often arranged in vertical series, but in other parts inordinate, passing above into the clypeus, which at the edge of the stroma is up to 60μ thick, but thickened above the perithecia to 140μ . Perithecia resting upon the palisade tissue, with only a thin brown stroma-line below them, each with a hyaline wall of concentrically fibrous, compressed tissue 10μ thick, which around the base of the ostiole becomes a mass of loose hyaline filiform paraphyses. Asci basal, erect, wide clavate, narrowed below into a very short stipe, widely rounded above, mostly 4-spored, up to $60\mu \times 28\mu$. Spores parallel and overlapping, hyaline, ellipsoid with obtuse ends, slightly clavate, the upper half wider than the lower, smooth, 1-septate near the base, not constricted, $35-45\mu \times 8-10\mu$, the lower cell $9-18\mu$ long. No paraphyses. Perithecia to 450μ diam. and 170μ high.

(202) *ROSELLINIA INSPERSA* Berk., *Hooker's Lond. Journ. Bot.* 1845, p. 299; Cooke, *Handb. Austr. Fungi*, p. 306, 1892.

Type on wood of *Eucalyptus* sp., Swan R., Western Australia, Drummond 215; also, loc. cit., Drummond 212 p.p., in Herb. Kew.

Perithecia closely scattered or subaggregate, erumpent-superficial, subglobose, black, mostly $300-350\mu$ diam. and high, glabrous, with slightly truncate-conoid ostiole pierced by a minute round pore; surface appearing very slightly rough, not smooth and shining, due to rounded surface cells. Wall brittle, carbonaceous, parenchymatous, of several layers of dark brown angular cells. Asci basal, numerous, cylindric with rounded apex, usually straight, with slightly attenuate, rather short stipe, 8-spored, $100-150\mu \times 10-12\mu$. Paraphyses filiform, equalling the asci, doubtfully septate. Spores obliquely 1-seriate or straight, sometimes overlapping, soon turning dark brown, ellipsoid, somewhat flattened on one side, smooth, continuous, $14-16\mu \times 8-9\mu \times 6-7\mu$, with elongate germination slit on one face.

(203) *SPORORMIA MEGALOSPORA* Auersw., *Hedwigia*, 7:68, 1868.

Perithecia scattered, sub-immersed to erumpent, globose to ovoid, $300-350\mu$ diam., black, rather fleshy, glabrous, with short conoid ostiole. Asci widely clavate to elongate ellipsoid, rounded at apex, very shortly stipitate, $180-210\mu \times 30-40\mu$; paraphyses long, filiform, loosely branched, guttulate. Spores 8, sub-parallel, imbricate, 2-4-seriate, cylindric, straight or slightly bent, widely rounded at apex, slightly attenuate-rounded at base, fuscous-black, subopaque, $62-80\mu \times 16-18\mu$, 3-septate, strongly constricted and the cells easily falling apart; central cells sub-cylindric, $16-20\mu$ long, the end cells slightly longer.

On Kangaroo dung, Keith, J. S. Hawker, WARI 4608, mixed with *Poronia punctata*.

(204) *THAXTERIA ARCHERI* (Berk.) Hansf., n. comb.

= *Sphaeria archeri* Berk., in Hooker, *Flora Tasmaniae*, 2:280, 1860. = *Zignoella archeri* (Berk.) Sacc., *Syll. Fung.*, 2:217. = *Gibberidea archeri* (Berk.) Cooke, *Handb. Austr. Fungi*, p. 304, 1892. = *Coelosphaeria leptosporoides* Wint., *Hedwigia*, 22:2, 1883. = *Leptospora spermoides* (Hoffm.) Fuckel, var. *rugulosa* Rick., *Ann. Mycol. Berl.*, 3:17, 1905. = *Nitschkia rugulosa* (Rick) Hoehnel, *Sitzb. K. Akad. Wien*, 123:59, 1914. = *Leptospora leptosporoides* (Wint.) Hoehnel, *Ann. Mycol. Berl.*, 16:105, 1918. = *Thaxteria leptosporoides* (Wint.) Fitzpatrick, *Mycologia*, 15:60, 1923.

Type on bark, Tasmania, Archer in Herb. Kew.

Perithecia closely gregarious, superficial, arising singly from the extension upwards of a very thin, black stroma on and in the bark, the stroma often reduced to a few flexuous dark brown septate hyphae, without spines. Perithecia short-stalked, sometimes the stalks partly confluent below; $500-800\mu$ diam., up to 1 mm. high, black, shining, coarsely tuberculate, the warts up to 50μ diam. and high, composed of cells of the stroma, becoming brownish when old; the perithecia at first subglobose, soon collapsing and becoming cupulate with a distinct papillate central ostiole. The stalk and outer (stroma) wall of the ascoma are composed of dark brown, rather thick-walled cells $8-25\mu \times 6-10\mu$, in the outer and lower parts often in longitudinal series, internally rather loosely arranged beneath the true perithecium, which is entirely embedded within the stroma; around the loculus the stroma-wall is $30-100\mu$ thick. The true perithecial wall is hyaline, or faintly coloured on the outside, composed of compressed, concentrically fibrous, thin-walled tissue, $10-15\mu$ thick at the base, up to 30μ thick above the loculus, pierced in the centre of the upper part by a minute round pore, lined with the ends of the wall fibres. Asci basal, erect, clavate, attenuate below into a narrow empty stipe, rounded and slightly thickened at the apex, 8-spored, $75-90\mu \times 14-20\mu$, paraphysate. Spores parallel, 2-3-seriate and overlapping, slightly bent cylindric, ends obtuse rounded, long remaining hyaline and continuous, then 1-septate in middle, finally 3-septate and dark brown, smooth, not constricted at the septa, $20-30\mu \times 5.5-7\mu$.

(205) *TREMATOSPHAERIA CONGESTA* (Cooke) Berlese & Voglino, *Sacc. Syll. Fung.*, Addit. p. 150.

= *Psilosphaeria congesta* Cooke, *Grevillea*, 11:149, 1883; Cooke, *Handb. Austr. Fungi*, p. 307, 1892. = *Cucurbitaria (Melanomma) plagia* Cooke & Massee, *Grevillea*, 17:8, 1889; Cooke, *Handb. Austr. Fungi*, p. 304, 1892.

Type on wood, Twofold Bay, NSW, leg. Tyrone White, in Herb. Kew.

Perithecia densely crowded in linear groups emergent through the bark, finally laterally and longitudinally confluent over large areas, black, smooth, with slightly conoid ostiole pierced by a round pore; perithecia often stalked and are subglobose swellings at the end of each stalk, the latter arising from a common thin black stroma on the surface of the wood, or this stroma almost completely absent; other perithecia are sessile and then globose. Wall and stalk, where present, continuous, hard, brittle, carbonaceous, of several layers of subopaque parenchyma, enclosing a single globose loculus. Asci basal, cylindric with rounded and thickened (-5μ) apex, shortly stipitate or subsessile, 8-spored, up to $160\mu \times 20\mu$. Spores 2-3-seriate and overlapping, slightly bent fusoid, ends obtuse, uniformly clear brown, smooth, thin-walled, 1-3-(5)-septate, often very slightly constricted at middle septum, $32-39\mu \times 8-10\mu$. Paraphyses linear, simple, hyaline, equalling the asci, $1-2\mu$ thick.

The host and the fungus are identical with the type specimen of *Cucurbitaria (Melanomma) plagia* Cooke & Massee, on stems of *Cassinia aculeata*, Port Philip, Victoria 1888; also Mt. Blackwood, Victoria, Mueller, 1891.

(206) *GIBBERELLA PASSIFLORAE* Cooke & Mass., *Grevillea*, 16:5, 1888; Cooke, *Handb. Austr. Fungi*, p. 283, 1892.

Type on dead twigs of *Passiflora edulis*, Brisbane, Bailey 535 in Herb. Kew.

Perithecia erumpent to superficial on a very thin stroma of hyphae forming *Fusarium* conidia, single or in close groups of about 6, appearing black, covering long lengths of the dead twigs of the host (mixed with *Diplodia* sp. and other fungi), globose to collapsing when dry, smooth, very slightly papillate at apex, $200-300\mu$ diam. and high; wall dark blue-purple, composed of 2-3 layers of angular parenchyma, the cells compressed, $12-15\mu$ diam. on the outside, the whole wall firmly membranous in texture; the round apical ostiole slightly paler and lined with short hyaline paraphyses, the pore about 20μ diam. Asci basal, paraphysate, numerous, cylindric to slightly clavulate, thin-walled, rounded at the apex, attenuate below into a short empty stipe,

4-6-8-spored, up to $80\mu \times 15\mu$. Spores 1-2-seriate and overlapping, broadly ovate with rounded ends, hyaline, smooth, 1-septate, not constricted, $10-14\mu \times 6-7.5\mu$. No 3-septate spores were found.

(207) *MELANOSPORA CAPRINA* (Fr.), Sacc., *Syll. Fung.*, 2:462, 1883.

On wood and chips, Tasmania, Archer, in Herb. Kew.

Perithecia scattered or aggregated in close groups, globose, brownish with white mealy surface, up to 1 mm. diam., with elongate ostiole to 2 mm. long by $150-180\mu$ diam. in the middle, attenuate to rounded apex, dark brown, under the microscope golden-brown. Wall of perithecium thick, tough and hard, brittle when dry, $25-35\mu$ thick around the body, composed of an outer layer of yellow, angular parenchyma, the cells $10-20\mu$ diam., with rather thick side walls; the inner layers hyaline, compressed, of smaller cells. The ostiole is formed of agglutinate parallel hyphae, with a narrow central canal. The surface of the body is covered with loose hyphae, adpressed to the wall, and in the upper part in places loosely agglutinate as scattered, erect spicules. Asci basal, numerous, paraphysate, clavate, 8-spored, thin-walled, narrowed below into a delicate stalk, up to $80\mu \times 18\mu$. Spores inordinate, ellipsoid to citriform, continuous, the ends slightly attenuate-rounded and with a small round pale spot on each, connected by a longitudinal pale slit on one side, the remainder of the spore wall uniformly dark brown, smooth; spores $12-20\mu \times 6-11\mu$.

(208) *OPHIONECTRIA LARVAESPORA* (Cooke & Masee) Hansf., n. comb.

= *Lasiosphaeria larvaespora* Cooke & Masee, *Grevillea*, 19:83, 1891; Cooke, *Handb. Austr. Fungi*, p. 305, 1892; Berlese, *Icon. Fung.*, 1:119; Von Hoehnel, *Fragm. z. Mykol.*, 844.

Type on bark, socio scale insects and mosses, Mt. Macedon, Victoria, Martin 566 in Herb. Kew.

Perithecia scattered irregularly or sometimes in small groups, often seated on a bright yellow, loose mycelium, which extends up the perithecial wall almost to the apex as loose, flexuous, hyaline, interwoven, septate hyphae attached to the wall cells; perithecia without a stroma, globose, to 500μ diam., appearing bright lemon-yellow; the inner wall smooth and yellow-brown; ostiole almost flat, perforate by minute pore. Asci numerous, basal, cylindric, widely rounded and thickened at the apex when young, to 10μ , 8-spored, up to $250\mu \times 25\mu$. Paraphyses numerous, filiform, hyaline, 1μ thick, exceeding the asci, doubtfully septate and branched. Spores parallel and overlapping, hyaline, fusoid with obtuse ends, straight, up to $170\mu \times 9-11\mu$, transversely 15-17-septate, not constricted, the wall about 1μ thick, smooth, not breaking up into part-spores. Perithecial wall prosenchymatous, of several layers of angular, subhyaline thick-walled cells $8-10\mu$ diam., lined with smaller and thin-walled parenchyma, the whole wall about 40μ thick.

(209) *PACHYSACCA EUCALYPTI* Syd., *Ann. Myc. Berl.*, 28:435, 1930.

The type collection was made by G. Samuel on *Eucalyptus rostrata*, Noarlunga, South Australia, in Jan. 1924; additional specimens are WARI 3847 on the same host, Horsnall's Gully, South Australia, 8.1929, G. Samuel; on *E. odorata*, Kersbrook, S. Australia, Oct. 1933, WARI 3831; on *E. obliqua*, Millicent, S. Australia, WARI 3833; Balhannah, WARI 3836.

The collection on *E. odorata* appears macroscopically very different from the type, the leafspots being prominently dendritic and extending for 10 mm. or more, the branches about 0.5 mm wide. WARI 3847, however, is somewhat intermediate in appearance, as are the collections on *E. obliqua*.

Associated with this on *E. odorata* in WARI 3831 is a pycnidial fungus differing considerably from *Phomachora eucalypti* Syd., which is regarded as the true conidial stage of the *Pachysacca*.

SPILOMYCES DENDRITICA Hansf., n. sp.

Pycnidia immersa, in stromatibus *Pachysacca eucalypti* dispersa, depresso globosa, usque ad 180μ diam. et 150μ alt., glabra, membranacea, nigra; paries pluristratosus, extus atrobrunneus, intus hyalinus, parenchymaticus. Sporophora stipata, vix distinguenda. Pycnosporae singulae, terminaliae in sterigmatibus elongatis ($-10\mu \times 1\mu$), ovatae, primo hyalinae, brunnescentes, continuae, leves, $8-9\mu \times 3.5-4\mu$; sterigma persistens.

Hab. in foliis *Eucalypti odoratae*, Kersbrook, South Australia, 10.1933, WARI 3831.

The pycnidia occur scattered amongst the perithecia of *Pachysacca eucalypti* Syd., embedded within the stroma of the latter, and opening on its surface by a minute pore; black, globose to more or less flattened, up to 180μ diam. and to 150μ high; the wall of several outer layers of dark brown parenchyma, enclosing other hyaline, thin-walled layers, the innermost being sporiferous without differentiated sporophores. The conidia are borne singly at the ends of long sterigmata, which form a close palisade lining the loculus, and which remain attached to the shed spores as hyaline "tails" up to 10μ long by 1μ thick; the conidia themselves are ovate with rounded ends, at first hyaline, soon becoming dark brown, continuous, smooth, $8-9\mu \times 3.5-4\mu$, 1-3-guttulate within.

The other collections of *Pachysacca eucalypti* enumerated above have not been found to contain this pycnidial fungus, so that it is possible that it is a hyper-parasite.

(210) *SYSTEMMA GLOBULOSA* (Cooke & Masee) Hansf., n. comb.

= *Dothidea* (*Coccodea*) *globulosa* Cooke & Masee, *Grevillea*, 17:42, 1889; Cooke, *Handb. Austr. Fungi*, p. 299, 1892. = *Darwiniella globulosa* (Cooke & Mass.) Sacc., *Syll. Fung.*, 9:1049. = *Phragmodothella globulosa* (Cooke & Mass.) Theiss. & Syd., *Ann. Mycol. Berl.*, 13:343, 1915.

On *Drimys aromatica*, in Herb. Kew, type; without locality or collector.

Stromata hypophyllous, scattered, usually only one or two per leaf, hemispheric to subglobose, black, dull, finely tuberculate; developing beneath the epidermis, and then the leaf tissue growing out to form the inner stroma tissue like a gall, finally bursting the epidermis; 1-2 mm. diam. and high. In section the stromata consist of the rather small-celled outer layers, opaque black, parenchymatous, gradually passing inside into brown, subtranslucent tissue of large angular dark brown parenchyma; towards the base this stroma tissue breaks up into brown, to subhyaline or hyaline hyphae between the hypertrophied leaf tissue.

Loculi completely buried in the outer tissues of the stroma in a single layer (like *Hyposylon*), elliptic, $150-170\mu$ high, $100-150\mu$ diam., opening to the surface by a small round pore lined with periphyses. Asci basal, somewhat fasciculate from a basal mass of hyaline parenchyma, at first replacing the delicate hyaline "ground parenchyma" of the loculus, of which traces often remain above the immature asci; erect, cylindric-clavate, rather thick-walled and thickened around the rounded apex, 8-spored, paraphysate, $75-85\mu \times 12-15\mu$. Spores 2-seriate and often overlapping, long remaining hyaline, finally becoming dark brown, even before discharge, smooth, ellipsoid, the ends obtuse, 1-septate and often slightly constricted below the middle, usually straight, $19-22\mu \times 5-6\mu$, the upper cell $12-15\mu$ long and slightly wider than the lower, which is $6-8\mu$ long.

There is no separate perithecial wall; the loculus is at first filled with hyaline parenchyma, passing into the stroma tissue outside; the asci develop at the base of the loculus and grow upwards at the expense of the ground tissue; finally the apex opens lysisogenously.

(211) *BROOKSIA* Hansf., n. gen. (*Pseudosphaeriales*).

Perithecia dispersa, stipitata, terminalia vel lateralia, singula, in hyphis mycelii evoluta, turbinata vel subglobosa, brunnea, glabra; paries peritheci unistratosus, parenchymaticus, apice late aperta. Asci paraphysati, pauci, basali, saccati, 8-spори. Sporae cylindraceae vel fusoideae, subrectae, obtusae, dilute brunneae, leves, transverse 3-septatae. Fungi foliicoli, saprophytici; mycelium laxum, brunneum, superficialum, exhyphopodium.

BROOKSIA TROPICALIS Hansf., n. sp.

Mycelium hypophyllum, brunneum, irregulariter ramosum, laxe reticulatum, effusum; hyphis septatis, cellulis plerumque $20-30\mu \times 5-7\mu$, levibus vel indistincte minuteque hexagonaliter areolatis. Hyphae erectae laxe dispersae, brunneae, subrectae, septatae, usque ad 2 mm. alt., simplices, $8-10\mu$ crassae, sursum attenuatae, obtusae, interdum conidiiferae. Conidia lateralia, pauca, singula vel subopposita, helicoidea, brunnea, simplicia, obtusa, multiseptata, usque ad $500\mu \times 7-10\mu$, cellulis circa 20μ longis, ad septa non constrictis, extus hexagonaliter areolatis, verruculosus. (*Helicosporium hendrickxii* Hansf.)

Perithecia laxa dispersa, stipitata, usque ad 250μ alt., turbinata vel subglobosa, atrobrunnea, levia, stipite $70-150\mu \times 7-10\mu$, transverse septata, hyphis erectis mycelii consimile; perithecia singula, terminalia vel raro lateralia, $80-110\mu \times 80\mu$, sursum truncata et in maturitate circa 50μ diam., basi attenuato-rotundata; paries parenchymaticus, unistratosus, ex cellulis $8-10\mu$ diam., angulosis compositus. Asci 3-8, basali, apophysati, saccati, sessili, apice attenuato-rotundati et ad 3μ incrassati, 8-spори, usque ad $80\mu \times 40\mu$. Sporae parallelae vel inordinatae, fusoideae utrinque obtusae, rectae vel curvulae, transverse 3-septatae, medio non vel leniter constrictae, leves, $35-44\mu \times 9-11\mu$, in maturitate dilute brunneae.

Hab. in foliis *Syzygii* sp. indet., Lae, New Guinea, J. S. Womersley (WARI 4592, type)—in foliis *Dialii guineensis*, Gold Coast, Hughes (IMI 42152)—in foliis *Calophylli inophylli*, Sierra Leone, Deighton (IMI 45414-b)—in foliis *Sorindeiae juglandifoliae*, loc. cit., Deighton (IMI 53375), (IMI 56453)—in foliis *Taraktogenodis kurzii*, loc. cit., Deighton (IMI 51721)—in foliis *Parinari excelsae*, loc. cit., Deighton (IMI 8928)—in foliis *Cnestidis corniculatae*, loc. cit., Deighton (IMI 57443)—in foliis *Wallichiae distichae*, loc. cit., Deighton (IMI 6956-a)—in foliis *Homalii africanae*, loc. cit., Deighton (IMI 56748)—in foliis *Raphiae villosae*, loc. cit., Deighton (IMI 51894)—in foliis *Uapacae guineensis*, loc. cit., Deighton (IMI 8697-b).

The mycelium ramifies loosely over the lower surface of the host leaf and is completely superficial, bearing no relation to the stomata; there appears to be no penetration of the host and the fungus appears to be completely saprophytic; it is often mixed with *Grallomyces portoricensis* Stev. but is not connected with this. The hyphae are straight or sinuous, pale brown, smooth or indistinctly and minutely hexagonal-areolate, septate, loosely and irregularly branched, the cells $20-30\mu \times 5-7\mu$. From this repent mycelium arise at irregular intervals single, rarely in twos or threes in close proximity, erect straight, simple branches, up to 2 mm. long by $8-10\mu$ thick, darker brown, and prominently marked on the surface with raised hexagonal areolae $1-3\mu$ diam., the edges of these areolae dark brown, giving a rough appearance; these erect hyphae are septate, not normally constricted, at intervals of $20-30\mu$. In some colonies these erect hyphae bear lateral conidia about half-way up, either single or in a loose group of 2-5, each conidium on a short lateral sterigma about $10\mu \times 5\mu$, usually single but occasionally two opposite from the same parent cell of the "conidiophore". Conidia single and terminal on the sterigma, long cylindric, obtuse, pale to dark brown, simple, up to $500\mu \times 7-10\mu$, septate into cells about 20μ long, not constricted at the septa, having the same hexagonal areolae as the erect hyphae and conidiophores, spirally contorted with up to 9-10 turns, these about $30-35\mu$ diam. These conidia were originally described as *Helicosporium hendrickxii* Hansf. (Recueil INEAC, 2:53, 1945).

The perithecia of *Brooksia tropicalis* arise from the same mycelium as the erect hyphae described above, though the conidia and perithecia are normally formed in separate colonies, which may be adjacent on the same leaf. Each perithecium arises usually at the end of a shorter erect hypha ($70-150\mu$ long) than the usual "setae" or "conidiophores", and which has the characteristic hexagonal areolae on the surface. Rarely the perithecia are lateral on the lower part of one of the long erect hyphae, and in the mature condition the upper part of the erect hypha appears to arise from the base of the perithecial wall in these cases. The young perithecium commences as a globose swelling of the apical cell of the stalk, which divides to give a mass of dark

brown parenchyma, eventually enclosing a delicate tissue of hyaline parenchyma, at the base of which arise the ascogenous hyphae. These form a small mass and the asci develop as enlargements of the terminal cells of the branches of the hyphae, enlarging at the expense of, and eventually replacing the whole of the contents of the perithecium. The perithecial outer wall consists of a single layer of brown parenchyma, the cells angular, 8–10 μ diam., smooth on the outer walls, which are slightly convex; towards the truncate apex of the perithecium the cells are somewhat smaller and form a ring around the widely open end of the ascoma. The asci are 3–8 in number, and develop in succession, the oldest discharging its spores and collapsing to make room for the next. There are no paraphyses; the asci enlarge to become saccate, attenuate-rounded and thickened at the apex to about 3 μ , sessile at the base, 8-spored. Spores more or less parallel or inordinate in the ascus, long remaining hyaline and 1-septate, slightly constricted, in the middle, eventually becoming pale brown, somewhat fusoid, straight or slightly bent, the ends obtuse, transversely 3-septate, smooth. After discharge the spores germinate on the leaf surface to give a short hypha, which very soon sends up into the air the beginnings of the first "erect hypha" or "conidiophore", having the characteristic hexagonal areolae on its surface.

(212) *HEPTAMERIA OBESA* (Dur. & Mont.) Sacc., *Syll. Fung.*, 2:88, 1883.

On twigs, Victoria, Martin 948 p.p.; in Herb. Kew as type coll. of *Zignoella crumpens* Cooke.

Perithecia scattered or in groups of 2–3, separate, globose, black, smooth, papillate, up to 500 μ diam., erumpent through bark of twig. Wall thick, brittle, carbonaceous, prosenchymatous. Asci basal, numerous, clavate-cylindric, 8-spored, rounded and thickened to 5 μ at apex, very shortly stipitate. Paraphyses numerous, equalling asci, doubtfully septate, simple, hyaline, filiform. Spores 2–3-seriate and overlapping, fusoid, often bent, then ends attenuate-rounded, the central cell swollen and dark brown, later becoming muriform, smooth, the end cells pale clear brown, 4–5 on each side of central cell; 60–70 μ \times 12–15 μ .

The perithecia of this fungus were included by Cooke in his diagnosis of *Zignoella crumpens*.

(213) *LEPTOSPHERIA VAGABUNDA* Sacc., *Nuov. Giorn. Bot. Ital.*, 7:318, 1875.

Ascomata scattered individually or when growing on enlarged lenticels in groups of 2–4, almost wholly immersed, black, globose to ovate, 120–250 μ diam., glabrous, the flat conoid ostiole scarcely protruding, pierced by a minute pore lined with short, ascending, hyaline paraphyses. Wall of several layers of brown-black parenchyma with thick walls in the outer layers, progressively thinner and subhyaline inside, enclosing several layers of more or less compressed, hyaline, thin-walled cells, the whole wall about 20 μ thick. Asci mostly basal, mixed with very numerous filiform, hyaline, simple or irregularly ramose, septate, paraphyses, 1 μ thick, exceeding the asci and also enclosing them around the inner part of the wall. Asci cylindric-clavate, narrowed below into rather short stalk 2–3 μ wide and 20–25 μ long, the sporiferous part up to 110 μ \times 10–13 μ , rounded at the apex but not noticeably thickened, 8-spored. Spores irregularly 1–2-seriate and overlapping, biconoid, inside the ascus always hyaline and 1-septate, constricted, the upper part of the spore slightly larger than the lower, the ends obtusely rounded, 4-guttulate, with distinct exospore about 1.5 μ thick, apparently mucose. After discharge the spores become pale yellow-brown and lose the mucose exospore, becoming 3-septate with the central cells subglobose and larger than the terminal, obtusely conoid cells, constricted at the septa, the surface smooth but with indistinct darker granules, 20–26 μ \times 6–7 μ ; often the subapical cell is slightly the largest.

E. Muller in *Sydowia*, 4:284, 1950, gives an extensive synonymy for this species and considers the valid name to be *L. sepincola* (B. & Br.) Wint. in *Rabh. Kryptog.-Fl.*, 1887, p. 473.

On dead branches of *Corylus avellana*, Stirling West, South Australia, 7.1954, E. H. Ising, WARI 3881.

(214) *MYCOSPHAERELLA BRUNNEA* Hansf., n. sp.

Maculae amphigenae, rotundatae vel irregulares, dilute brunneae, linea rufo-brunnea leniter elevata circumdatae, 4–6 mm. diam. vel confluentes. Perithecia irregulariter dispersa, immersa, nigra, punctiformia, globosa, glabra, 100–150 μ diam., poro apicali epidermidem folii leniter elevatam perforante; paries membranaceus, brunneus, unistratosus, parenchymaticus, sursum atro-brunneus. Asci basali, fasciculati, aparaphysati, late ellipsoidei vel saccati, recti vel incurvati, subsessili, 8-spori, 35–45 $\mu \times$ 15–20 μ . Sporae pluriseriatae vel irregulariter dispositae, tenuiter ellipsoideae utrinque obtuse rotundatae, hyalinae, 1-septatae, haud constrictae, leves, 14–19 $\mu \times$ 4 μ .

Hab. in foliis *Tristaniae* spec., Brisbane, Queensland, Bailey 506 in Herb. Kew.

This specimen is the type of "*Ascochyta brunnea*" Cooke & Mass. in *Grevillea*, 15:98, but I was unable to find any trace of their fungus on the material. It is possible that Cooke and Massee may have described the ascospores of this *Mycosphaerella* as conidia of their *Ascochyta* which were given as 12 $\mu \times$ 4 μ .

(215) *MYCOSPHAERELLA CRYPTICA* (Cooke) Hansf., n. comb.

= *Sphaerella cryptica* Cooke, *Grevillea*, 20:5, 1892; Cooke, *Handb. Austr. Fungi*, p. 311, 1892.

Type on leaves of *Eucalyptus* sp., Victoria, Martin 753 in Herb. Kew.

Causing dark red-brown blotches on the leaf, amphigenous, not delimited by a line, becoming darker and almost black, often widely confluent and irregular. Perithecia amphigenous, closely crowded, black, globose, glabrous, up to 130 μ diam., with only the apical pore penetrating the epidermis; wall thinly membranous, of dark brown parenchyma. Asci in basal fascicle, subsessile, obclavate to saccate, rounded and slightly thickened at the apex, 8-spored, to 40 $\mu \times$ 12–15 μ , aparaphysate. Spores 2–3-seriate or irregularly arranged in ascus, hyaline, narrow ellipsoid with obtusely rounded ends, smooth, 1-septate, not constricted, thin-walled, 10–12 $\mu \times$ 2–3 μ .

Also on *Eucalyptus* sp., Victoria, Martin 766 in Herb. Kew.

(216) *MYCOSPHAERELLA IXODIAE* Hansf., n. sp.

Maculae nullae; perithecia in foliis emortuis et alis caulis dispersa, immersa, atra, globosa, usque ad 150 μ diam.; paries membranaceus, 1–2-stratosus, parenchymaticus, sursum obscurior et crassior, apice leniter papillosus, haud prominens, poro perforatus. Asci basales, fasciculati, incurvati, aparaphysati, erecti, ellipsoidei vel subsaccati, apice rotundati et usque ad 4 μ incrassati, basi nodoso-stipitati, 8-spori, 60 $\mu \times$ 12–15 μ . Sporae 2–3-seriatae, hyalinae, ellipsoideae, rectae vel curvulae, utrinque rotundatae, 1-septatae, haud constrictae, leves, 17–20 $\mu \times$ 4 μ .

Conidia: *SEPTORIA IXODIAE* Hansf., n. sp.

Pycnidia in areolis folii etiam in alis caulis, dense dispersa, immersa, globosa, atra, punctiformia, usque ad 90 μ diam.; paries membranaceus, parenchymaticus, brunneus, sursum obscurior, apice perforatus. Conidiophora hyalina, simplicia, continua, circa 15 $\mu \times$ 3 μ . Conidia acrogenae, singula, hyalina, filiformia, arcuata vel sursum fortiter curvata, 3–4-septata, haud constricta, basi rotundata, levia, 60–105 $\mu \times$ 3 μ , sursum attenuata, apice rotundata, 1.5–2 μ cr.

Hab in foliis et caulibus *Ixodiae achilleoidis*, Mt. Lofty, South Australia, 5.1954, Hansford, WARI 3793.

Both stages are formed on indefinite brown areas of the older leaves and on the wings of the stems, the tissues soon dying and not demarcated by a definite border. Pycnidia closely scattered, mostly on upper surface of leaves, immersed, globose, black, punctiform, up to 90 μ diam.; wall membranous, of one layer of pseudoparenchyma with some traces of formation from interwoven hyphae, brown, darker around the apex, which does not protrude from the tissues, and is pierced by a pore 15–20 μ diam. Conidiophores hyaline, simple, continuous, about 15 $\mu \times$ 3 μ . Conidia single, acrogenous, hyaline, filiform, usually arcuate or strongly bent above, 3–4-septate, rounded at the base, smooth, 60–105 $\mu \times$ 3 μ , gradually attenuate to the rounded apex which is 1.5–2 μ wide.

Perithecia formed amongst the pycnidia, especially on the older infected tissues, scattered, immersed, black, up to 150μ diam., glabrous; wall membranous, of 1-2 layers of dark brown polygonal cells, darker and somewhat thicker around the slightly papillate but not protruding apex, which is pierced by an irregular pore. Asci in a single basal rosette, incurved erect, aparaphysate, ellipsoid to subsaccate, rounded and thickened to 4μ at the apex, nodose-stipitate below, 8-spored, $60\mu \times 12-15\mu$. Spores 2-3-seriate, overlapping, hyaline, ellipsoid, straight or bent, both ends rounded, 1-septate, not constricted, thin-walled, smooth, $17-20\mu \times 4\mu$.

(217) *MYCOSPHAERELLA MARTINAE* Hansf., n. sp.

Maculae amphigenae, atrobrunneae, angulosae, venis folii delimitae, 1-3 mm. diam., subinde confluentes, haud zonatae. Perithecia plerumque epiphyllae, usque ad 10 in macula una, singulariter dispersa, immersa, nigra, punctiformia, globosa, glabra, circa 100μ diam.; paries brunneus, membranaceus, parenchymaticus, poro rotundato apicali epidermidem perforante. Asci aparaphysati, basali, fasciculati, recti vel incurvati, ellipsoidei vel saccati, apice rotundati incrassatique, 8-sporei, subsessili, $40-50\mu \times 10-12\mu$. Sporae 2-3-seriatae, tenuiter ellipsoideae utrinque obtuse rotundatae, 1-septatae, haud constrictae, hyalinae, leves, $11-13\mu \times 2.5-3\mu$.

Hab. in foliis *Eucalypti* spec., Victoria, Martin 765 in Herb. Kew.

In microscopic morphology this is very close to *M. cryptica*, but the leafspots on the host are very different. They are amphigenous, 1-3 mm. diam., dark brown, darker on upper surface, angular, delimited by the leaf venation but sometimes coalescent, each containing about 10 scattered perithecia, mostly on upper surface.

(218) *MYCOSPHAERELLA NUBILOSA* (Cooke) Hansf., n. comb. (?).

= *Sphaerella nubilosa* Cooke, *Grevillea*, 19:61, 1892; Cooke, *Handb. Austr. Fungi*, p. 310, 1892.

Type on leaves of *Eucalyptus* sp., Melbourne, Victoria, Martin 584 in Herb. Kew.

Perithecia hypophyllous on rounded or irregular and confluent pale brown leafspots bounded by a thin brown line, soon drying and secedent, up to 10 mm. diam. Perithecia black, punctiform, closely scattered, globose, glabrous, immersed with only the apical pore penetrating the epidermis, $100-156\mu$ diam.; wall membranous, of 2-3 layers of brown angular parenchyma, darker around the apical pore. Asci aparaphysate, in a basal rosette, ellipsoid to subsaccate, straight or incurved above, subsessile, 8-spored, rounded and slightly thickened at the apex, about $50\mu \times 18\mu$. Spores 2-3-seriate, oblique, overlapping, ellipsoid with rounded ends, usually straight, hyaline, smooth, 1-septate, not constricted, $12-14\mu \times 2.5-3\mu$.

Also on *Eucalyptus* spp., loc. cit., Martin 589; Currumbin, Queensland, 1911, C. T. White 14, 15 (all in Herb. Kew).

(219) *PHYSALOSPORA LATILANS* Sacc., *Fl. Mycol. Lusit.*, p. 67, 1893.

On dead leaves of *Eucalyptus* sp., Meningie, South Australia, L. D. Williams, WARI 3874.

Perithecia epiphyllous, scattered or sometimes aggregated into irregular patches, not on leafspots, totally immersed, globose, about 250μ diam., black, the ostiole not projecting but merely penetrating to the surface; wall of several layers of dark brown parenchyma enclosing a centrum of hyaline hyphae connected above and below to the wall cells. This centrum is more or less completely replaced by the single basal rosette of asci, save for remains which enclose the latter and a few threads as "branched paraphyses" between the asci. Asci cylindric, subsessile, bent, rounded and thickened at the apex when immature, with a slight internal apical canal, 8-spored, $80-105\mu \times 9-13\mu$. Spores obliquely 1-2-seriate, hyaline, ellipsoid, sometimes slightly bent, obtuse at the ends, continuous, smooth, $18-21\mu \times 7-8.5\mu$.

This species has been recorded previously in Victoria on *Eucalyptus obliqua* and *E. diversicolor*.

(220) WETTSTEININA CORYLI Hansf., n. sp.

Ascomata immersa, dispersa, atra, glabra, depresso-globosa, crasse membranacea vel scorteae, in sicco dura, usque ad 400μ diam., ostiolo plano, perforato; paries pluristratosus, $20-30\mu$ crassus, extus niger, intus subhyalinus. Asci numerosi, basales, cylindraneo-clavati, breviter stipitati, apice rotundati, incrassati ($\sim 10\mu$), 8-sporei, $180-240\mu \times 30-45\mu$. Sporae oblique 1-2-seriatae, fusoidaeae utrinque rotundatae, saepe curvulae, 1-septatae, constrictae, cellula superiore longiore et lenissime latiore, hyalinae, leves $60-70\mu \times 19-22\mu$, exosporio usque ad 3.5μ cr., hyalino, gelatinoso. Post emissionem sporae brunnescentes et 3-septatae, cellulis terminalibus $6-10\mu$ longis, endosporio brunneo, $1-2\mu$ cr., exosporio hyalino, levi, $1-2\mu$ cr. Paraphyses ascos superantes, filiformes, $1-2\mu$ cr., septatae, laxae ramosae.

Hab. in ramis emortuos *Coryli avellanae*, Stirling West, South Australia, 8.1954, E. H. Ising, WARI 3896.

Perithecia immersed, scattered singly, black, glabrous, flattened globose, thickly membranous to leathery in texture when fresh, hard when dried, up to 400μ diam.; ostiole not differentiated and the apex of the perithecium opening through the uplifter and split bark by a small pore; wall of several layers of subopaque brown parenchyma, $20-30\mu$ thick, becoming hyaline inside. Asci numerous, basal, cylindric-clavate with attenuate, short stipe and thickened ($\sim 10\mu$), rounded apex with a central wide internal canal, 8-spored, $180-240\mu \times 30-45\mu$, the wall about 2μ thick below. Spores obliquely 1-2-septate, fusoid with rounded ends, usually slightly bent, 1-septate and constricted, the upper half longer and slightly wider than the lower, remaining hyaline within the ascus, $60-70\mu \times 20-22\mu$, surrounded by a gelatinous exospore up to 3.5μ thick. Paraphyses exceeding the asci, filiform, $1-2\mu$ thick, septate, loosely ramosae and separating the individual asci, representing the remains of the original fibrous-mucose centrum. The spores after discharge turn brown, and a small cell, $6-10\mu$ long, is cut off from each end, often slightly constricted at its septum; the brown colour is limited to the endospore layer, which is $1-2\mu$ thick, while the exospore remains as a hyaline covering $1-2\mu$ thick, smooth.

(221) LOPHIOSTOMA RHOPALOIDES Sacc., Fung. ital. no. 237, and in *Syll. Fung.*, 2:689, 1883.

On dead wood, Stirling West, 7.1954, E. H. Ising, WARI 3883.

Perithecia closely scattered, innate with erumpent ostiole, sitting on the wood under the bark, the body up to 500μ diam., globose or slightly flattened, attenuate into a bluntly compressed-conoid ostiole which extends up to 200μ above the bark surface, black, carbonous, terminating in a narrow slit about 150μ long; body of perithecium less hard and brittle than the ostiole. Asci numerous, cylindric-clavate with narrow filiform stalk $30-40\mu$ long by $2-3\mu$ diam., the whole ascus to 140μ long and $10-13\mu$ diam. in upper part, rounded but not noticeably thickened around the apex, 8-spored. Spores 1-seriate and oblique below, often 2-seriate and overlapping above, ellipsoid-obovate, becoming brown, smooth, transversely 3-septate, distinctly constricted at middle septum, less so at the others, the upper half slightly wider than the lower, the subapical cell often distinctly the largest, the ends rounded, $16-21\mu \times 6-7.5\mu$. Paraphyses filiform, hyaline, simple, continuous, 1μ thick, equalling the asci, numerous.

(222) HYSTEROGRAPHIUM DEPRESSUM (Wint.) Hansf., n. comb.

= *H. hiascens* Rehm., subsp. *macrum* Sacc. & Berl., var. *depressum* Wint., *Rev. Mycol.*, 1886, p. 212.

Apothecia numerous, single or in small longitudinal groups, closely scattered on the exposed surface of the wood, emergent from longitudinal crevices, black, linear, straight or slightly bent, smooth, up to 1.5 mm. long by 0.3 mm. wide, slightly erumpent, with narrow, central, longitudinal cleft, the lips swollen and longitudinally striate. In section the lips are $50-60\mu$ thick, composed of opaque black thick-walled cells, slightly thinner towards the base, and enclose a "loculus" up to 180μ wide and high. Asci basal, clavate with short stipe, 8-spored, widely rounded but not thickened at the apex, up to

130 μ \times 30 μ . Spores obliquely 2-seriate, oblong to slightly clavulate-fusoid, the ends obtuse in surface view, somewhat acute in side view, becoming dark brown, 7-9-septate transversely and with 1-3 longitudinal septa, constricted at the middle septum, 30-38 μ \times 11-13 μ = 6-8 μ . Paraphyses fairly numerous, equalling or slightly exceeding the asci, simple or doubtfully ramose, 1-2 μ thick, with very thin walls.

On dead wood of *Casuarina* sp., South Australia, Kanmantoo, July 1954, M. W. Carter, WARI 3892.

(223) *SPHAEROSOMA MUCIDA* (Rodway) Hansf., n. comb.

= *Spragueola mucida* Rodway, *Proc. Roy. Soc. Tasm.*, 1919, p. 114.

Apothecia sessile, subglobose with coarsely nodulose surface, white, about 5 mm. diam. The hymenium covers the whole surface; asci cylindric, 8-spored, up to 220 μ \times 27 μ , operculate. Spores 1-seriate, globose, hyaline, continuous, 18-22 μ diam., closely spinulose all over, the spines up to 3 μ long, acute from a rather broad base, somewhat flexible; inclusive of the spines the spores are up to 26 μ diam. Paraphyses much exceeding the asci, filiform, about 3 μ thick below, septate, the apices slightly swollen up to 6 μ , straight when moist, becoming distorted and shrivelled when dry. The paraphyses form a thick epithecium over the asci, up to 100 μ deep. When moist the fructifications are tough gelatinous, if very wet they are softer and viscid, becoming cartilaginous and hard when dried and then yellowish in colour.

The above description has been drawn up from re-examination of the type collection on rotting wood, Mt. Nelson, Tasmania, Rodway, in Herb. Tasmanian Museum.

(224) *GEOGLOSSUM GLABRUM* Pers. ex Fr., *Syst. Myc.*

Specimens examined: TASMANIA: Cascades, Rodway, Aug. 1919, May 1924, July 1924; VICTORIA: Warrandyte, Clarke, Aug. 1904, in Herb. Dep. Agr. Vict. as no. 535/04; Cockatoo, McLennan, 1935; SOUTH AUSTRALIA: National Park, Aug. 1952, Warcup, WARI 2437.

(225) *GEOGLOSSUM NIGRITUM* (Pers.) Cooke, *Mycographia*, p. 205, 1878.

Specimens: TASMANIA: Rodway, Cascades, July 1909, Aug. 1920, Sept. 1923; Marriott's Falls, June 1924; McRobies Gully, May 1917; Lindisfarne, Aug. 1924; National Park, June 1924; VICTORIA: Frankston, July 1903, McAlpine; Ringwood, Sept. 1903, C. French; Fern Tree Gully, Aug. 1918, Dickson; Colac, McLennan; NEW SOUTH WALES: J. B. Cleland, Neutral Bay, Sydney, June 1913; Sydney, 1917; Sedgwick, 1917; SOUTH AUSTRALIA: Hospital, Adelaide, J. B. Cleland, June 1949, WARI 3746; Delamere, July 1952, Warcup, WARI 2113; Woodville, Cleland, 1918, WARI 2694.

(226) *GLOEOGLOSSUM GLUTINOSUM* (Pers.) Durand, *Ann. Myc.*, 6:419, 1908.

Specimens: Colac, Victoria, McLennan; Cockatoo, Vict., McLennan, 1935.

(227) *LEOTIA LUBRICA* Fr., *Syst. Myc.*, 2:29, 1823.

This appears to be the only species of this genus in Australia, where it is fairly common and has been recorded from all States except Western Australia. Amongst numerous specimens examined I have been unable to find any which could not be included in this species.

(228) *MICROGLOSSUM OLIVACEUM* (Fr.) Gill., *Champ. Fr. Discom.*, p. 25, 1879.

The only Australian specimens I have seen are Rodway 358 and 359, from Marriott's Falls, Tasmania, Sept. 1924.

(229) *MICROGLOSSUM RUFUM* (Schw.) Underwood, *Minn. Bot. Studies*, 1:496, 1896.

Specimens: Tasmania, Rodway 362 from Lady Barron Falls, June 1924; Ulverstone, July 1924, Rodway.

(230) *MICROGLOSSUM VIRIDE* (Pers. ex Fr.) Gill., *Champ. Fr. Discomyc.*, p. 25, 1879.

The only Australian specimen seen is Rodway 818, from Gordon, Tasmania, June 1913.

(231) *MITRULA CUCULLATA* Fr., *Epicr. Myc.*, p. 584, 1838.

The only Australian record is based on a single collection, Rodway 433 on leaves of *Eucalyptus* on the ground, Falls Trail, Tasmania, Aug. 1896. I have examined this in the Rodway Herbarium and find that nothing now remains save the broken stalks of the ascomata. As far as I could gather, the record appears to be correct.

What are apparently two distinct species of *Mitrula* not previously recorded in Australia are represented in the Rodway Herbarium by collections made at Marriotts Falls, Tasmania, Sept. 1924; of these one is dark verdigris-green in colour of clava and stem, and the other pale flesh-coloured. Both have spores $12-15\mu \times 4.5-5.5\mu$. Further collections of these are needed for comparison with foreign species before they can be determined with certainty.

(232) *TRICHOGLOSSUM HIRSUTUM* (Pers. ex Fr.) Boud., *Hist. Class. Discom. Eur.*, p. 86, 1907.

Specimens examined: NEW SOUTH WALES: Sydney, May 1918, J. B. Cleland, WARI 2762. TASMANIA: Rodway, National Park, June 1924, Oct. 1924; Cascades, May 1924. VICTORIA: Wallaby Creek, Sept. 1953, Ashton; Kallista, McLennan, 1935.

(233) *TRICHOGLOSSUM WALTERI* (Berk.) Durand, *Ann. Myc.*, 6:440, 1908.

Specimens: Tasmania: Rodway, Mt. Wellington, Jan. 1909 and June 1911, on stems of *Dicksonia*; Cascades, Oct. 1919, on fern stem; Marriotts Falls, June 1924.

(234) *VIBRISSEA TASMANICA* Rodway, *Proc. Roy. Soc. Tasm.*, 1924, p. 119.

The type collection, on leaf litter, Marriotts Falls, June 1924, Rodway, in Herb. Tasm. Museum, has been re-examined.

Ascomata when dry almost black, to 10 mm. high; stem filiform, even, about 500μ diam., smooth. Head when dry collapsed and rugulose, dark brown, becoming paler when soaked ("when fresh globose, 2-3 mm. diam., pale greenish, smooth"—Rodway) sharply delimited from the stem. Asci cylindric, somewhat narrowed to the base, rounded at the apex, up to $130\mu \times 5\mu$, 8-spored. Spores in a parallel bundle, at first in the apical part of the ascus, then extending downwards almost to fill it, filiform, hyaline, continuous, $80-120\mu \times 1\mu$. Paraphyses not numerous, simple, filiform, hyaline, slightly exceeding the asci and the somewhat clavate tips agglutinate to form a very thin greenish epithecium, the tips to 3μ wide, below 1μ .

(235) *VIBRISSEA MCLENNANI* Hansf., n. sp.

Ascomata nigra, stipitata, usque ad 10 mm. alt.; caulis filiforme, circa 300μ diam., levis vel minute subtomentosus; caput usque ad 1 mm. diam., subglobose vel hemisphaericum, acute delimitatum, nigrum, leve. Asci numerosi, filiformes, apice rotundati, deorsum leniter attenuati, usque ad $150\mu \times 5\mu$, 8-sporei. Sporae parallelae, filiformes, hyalinae, usque ad $80\mu \times 1\mu$, haud septatae. Paraphyses numerosae, ascos aequantes, filiformes, apice subclavatae, simplices, deorsum 1μ cr., apice usque ad 2-3 μ cr.

Hab. in ligno, Dandenongs, Victoria, E. McLennan, 1951 (typus in Herb. Univ. Melbourne).

Ascomata black, stipitate, to 10 mm. high; stem filiform even, about 300μ diam., smooth, or with short suberect ends of the parallel hyphae of the flesh forming very short hairs; bearing a terminal head up to 1 mm. diam., subglobose to hemispheric, sharply delimited from the stem and reflexed over it to form a rounded rim at the base, black, even when quite moist, smooth, sometimes with a central apical depression. Asci numerous, filiform, rounded at the apex, attenuate below into very narrow stem, up to $150\mu \times 5\mu$, 8-spored. Spores parallel, filiform, hyaline, not distinctly septate, up to $80\mu \times 1\mu$, the ends attenuate-rounded. Paraphyses numerous, equalling the asci, filiform and slightly clavate at apex, simple, 1μ thick below, enlarged to 2-3 μ at apex.

(236) *VIBRISSEA QUEENSLANDICA* Hansf., n. sp.

Ascomata stipitata, molle carnosae, pileata; stipes centralis, elongatus, tenuis, saepe curvatus vel leniter flexuosus, luteus, levis, mollis, usque ad 20 mm. \times 1 mm., solidus,

deorsum leniter attenuatus; caput pileiforme, luteum, aquosum, margine pallidior, subtranslucens, rotundatum, usque ad 10 mm. diam. et 1 mm. cr. Hymenium epipileum, convexum, rugulosum, minute granulosum. Asci cylindraceo-clavati, usque ad $180\mu \times 6-7\mu$, apice rotundati, deorsum in stipitem filiformem attenuati, 8-spori. Sporae parallelae, filiformes, hyalinae, $80-100\mu \times 1.5\mu$, intus granulosae, haud distincte septatae. Paraphyses filiformes, ascos aequantes, septatae, apice subglobosae vel clavatae, usque ad 5μ cr., deorsum 1μ cr.

Hab. in terra, Imersby Falls, Queensland, July 1915, Darnell-Smith, WARI 2705.

Ascomata stipitate, soft fleshy, pileate; the cap yellow-brown, watery, the surface darker than the rounded margin, which is subtranslucent and rugulose; the cap $800-1000\mu$ thick and up to 10 mm. diam.; stem long, slender, often bent or flexuous, paler yellowish in colour, soft, subtranslucent, smooth, up to 20 mm. \times 1 mm., solid, slightly attenuate downwards. Hymenium covering the upper surface of pileus, finely granulose on surface, convex, somewhat irregularly rugulose. Asci cylindric-clavate, up to $180\mu \times 6-7\mu$, the apex rounded, not thickened, attenuate into long filiform stipe which has a slightly bulbous base, 8-spored. Spores filiform, parallel in ascus, hyaline, $80-100\mu \times 1.5\mu$, the contents finely granulose, not distinctly septate. Paraphyses filiform, equalling the asci, the apex subglobose to clavate, enlarged to 5μ from 1μ thick below, septate.

(237) *COCCOMYCES MARTINAE* Hansf., n. sp.

Ascomata epiphylla, dispersa vel 2-3-subaggregata, rotundata, circa 250μ diam., primo obtuse conoidea, demum subcupulata, dilute colorata, haud nigra, poro centrali irregulari dehiscencia. Asci erecti, cylindracei, apice rotundati, haud incrassati, nodostipitati, 8-spori, $70-90\mu \times 7-9\mu$; paraphyses numerosae, filiformes, hyalinae, sursum irregulariter furcatae, circa 1μ cr., continuae (?). Sporae parallele positae, filiformes, hyalinae, leves, $60-70\mu \times 2\mu$, indistincte septatae.

Hab. in foliis *Eucalypti* spec., Victoria, Martin, s.n., typus in Herb. Kew (socio *Phoma eucalyptidea* Thuem.).

Ascomata epiphyllous, scattered singly or in groups of 2-3 on pale areas within the leafspots caused by the *Phoma*, but distinct from these by a definite margin and hence considered to be entirely independent. Ascomata round, about 250μ diam., at first squat conical, then the overlying epidermis opening by a central irregular pore, not as in other collections on *Eucalyptus*, by a cruciate wide slit; pale coloured, not black. Internally there is a very thin flat stroma, hyaline, beneath the hymenium, which is enclosed around the sides and above, by a thin layer of pale olivaceous parenchyma, adherent to the epidermis and filling the epidermal cells, $15-20\mu$ thick, consisting of very small cells mixed with a crystalline deposit. Asci erect or incurved towards the apical pore, cylindric with thin, rounded apex, 8-spored, $70-90\mu \times 7-9\mu$, with very short nodose stipe. Paraphyses numerous, filiform, hyaline, irregularly furcate at the tips, which are not swollen. Spores parallel in the ascus, filiform, hyaline, smooth, indistinctly septate, $60-70\mu \times 2\mu$.

(238) *PSEUDopeziza EUCALYPTI* Hansf., n. sp.

Maculae amphigenae, plerumque epiphyllae, usque ad 1 mm. diam., interdum confluentes irregularesque. Apothecia plerumque epiphylla, atra, subcuticulares, rotundata vel irregulares, $0.5-0.75$ mm. diam., erumpentia, discoidea, gelatinosa, sursum brunneonigra. Paraphyses erectae, ascos leniter superantes, simplices, deorsum hyalinae, apice brunneae, septatae, $100-120\mu$ longae, deorsum $2-3\mu$ cr., apice usque ad 5μ diam. Asci subcylindracei, clavati vel saccati, subsessiles vel breviter stipitati, apice late rotundati, 8-spori, $80-100\mu \times 20-30\mu$. Sporae oblique 2-seriatae vel inordinatae, hyalinae, fusoidaeae utrinque attenuato-rotundatae, rectae, leves, continuae, $25-32\mu \times 7-9\mu$.

Hab. in foliis *Eucalypti* spec. indet., Pinnaroo, South Australia, 9.1924, G. Samuel, WARI 3841.

Apothecia usually single, sometimes 2-3 in close group, on minute dark red-brown leafspots without definite border, about 1 mm. diam. or sometimes confluent and irregular. Apothecia amphigenous or mostly epiphyllous, black, subcuticular in origin,

rounded to irregular, 0.5–0.75 mm. diam., at first covered by the cuticle, beneath which there is a very thin layer of black stroma, 5–10 μ thick, extending around the hymenium as a thin border of dark parenchyma, the cells 5–10 μ \times 4–6 μ , often erect and palisade-like. The cuticle is raised by the developing hymenium and finally breaks irregularly, falling away to expose the whole hymenium. Beneath the hymenium is a thin tissue of hyaline parenchyma arranged as a vertical palisade 2–4 cells thick, the uppermost cells being continued into the paraphyses, which are septate, simple, hyaline below, brown to dark brown at the apex, slightly exceeding the asci to form a thin epithecium, 100–120 μ long, 2–3 μ thick below, expanded to 5 μ at the apex, the walls rather thick above and gelatinous. Asci vary from subcylindric to clavate or saccate, with short narrow stipe or subsessile below, widely rounded at the apex, 8-spored, when mature 80–100 μ \times 20–30 μ . Spores obliquely 2-seriate or inordinate, hyaline, fusoid with attenuate-rounded ends, straight, smooth, continuous, 25–32 μ \times 7–9 μ .

Beneath the apothecium the epidermis is filled with hyaline hyphae, which also penetrate some of the underlying cells of the mesophyll, killing them. There are no haustoria and the internal mycelium is rather scant, limited to individual cells of palisade tissue, or on the lower side of the leaf to cells of the mesophyll just below the epidermis. The whole texture of the hymenium is firm gelatinous when moist, becoming black and horny when dry, and then flattened down close to the leaf surface.

The conidial stage is described below as *Gloeosporiella eucalypti* Hansf.

(239) AGARICUS (PSALLIOTA) AUSTRALIENSIS Hansf., n. sp.

Pileus convexus vel patens, usque ad 10 cm. diam., ad discum leniter depressus, margine incurvatus et irregulariter laceratus; extus siccus, dilute puniceo-brunneus, interdum in areolas angulatus circa 8 mm. diam. profunde diffissus, aliter integer, fibrillosus vel marginem versus squamosulus. Stipes 10–15 cm. longus, medius 12 mm. diam., basi bulbosus usque ad 25 mm. diam., extus levis, sursum albus, deorsum cremeus et longitudinaliter fibrilloso-striatus, interdum dilute brunneus. Annulus superior, duplex, parte superiore membranacea, alba, 2–3 mm. lata, parte inferiore leniter crassiore, usque ad 10 mm. lata. Caro pilei niveum, molle, siccum; caro stipitis molle, niveum, solidum, ex hyphis parallelibus compositum. Lamellae maturae purpureo-nigrae, haud brunneae, stipatae, liberae, haud ventricosae, 5–9 mm. altae, margine fertiles. Basidia 4-sporea; cystidia dispersa, ventricosa, 30–35 μ \times 7–9 μ , sursum attenuata et in spinam unam, solidam, rectam vel curvatum, usque ad 7 μ \times 1 μ producta. Sporae ellipsoideae, purpureae, leves, 10–15 μ \times 7–9 μ , tunica 1 μ crassa.

Hab. in horto, Sydney, New South Wales, Hutton, 1953 (typus); *l.c.*, R. J. Conroy, 1954, WARI 3803.

Pileus convex to spreading, up to 10 cm. diam., slightly depressed at the disc, the margin incurved and irregularly torn; surface dry, pinkish-brown in the external layer (cuticle), covering a creamy-white surface below; sometimes the surface splits into angular areas about 8 mm. diam. and up to 4 mm. deep, hence these stand out as warts, each having an angular top of the external brown cuticle and white below. Other specimens remain intact on the surface, which is very delicately fibrillose, becoming very slightly squamulose towards the margin. Stem 10–15 cm. long, by 12 mm. diam. in the middle, expanding below into a bulbous base about 25 mm. diam.; surface smooth and pure white above the ring, somewhat creamy below and longitudinally fibrillose-striate, some fibrils having a very pale brownish tinge; in some specimens the surface breaks up into indefinite rings of pale brownish scales pointing upwards. Ring superior, double, the upper part membranous, 2–3 mm. wide, white, the lower and outer ring thicker, tending to inroll and to break up into radial fragments, up to 10 mm. wide. Flesh of pileus pure white, soft, dry, not changing colour when cut, save immediately below the cuticle, where a very faint trace of cream is produced. Flesh of stem soft, pure white with a faint creamy watery tinge towards the surface, solid, soft, composed of longitudinal hyphae. Stem easily detached from pileus. Cuticle of pileus thin, peeling easily. Gills purple-black when mature, with no brown tinge, close, free, not ventricose,

5–9 mm. deep; the edge fertile. Basidia 4-spored; cystidia scattered, ventricose, $30\text{--}35\mu \times 7\text{--}9\mu$, attenuate upwards and ending in a solid, straight or curved spine $5\text{--}7\mu \times 1\mu$. Spores ellipsoid, purple, smooth, $10\text{--}15\mu \times 7\text{--}9\mu$, the wall 1μ thick, with minute apical germ-pore and slightly lateral basal hilum, which does not project.

(240) *CAMAROSPORIUM EUCALYPTI* Wint., *Rev. Mycol.*, 1888, p. 212.

On *Eucalyptus* sp., St. Armand, Victoria, H. Watts 8 in Herb. Kew, possibly part of the type collection (Reader 64, Melbourne, leg. Watts).

Leafspots elliptic, brown with dark marginal line, somewhat depressed below the leaf surface, 4–8 mm. \times 2–4 mm., or confluent, especially along the leaf edge, smooth, not zonate. Pycnidia immersed in small groups below the upper epidermis, black, punctiform, globose, $100\text{--}200\mu$ diam., with apical round pore penetrating the epidermis, not erumpent, glabrous, membranous; wall thinly parenchymatous, brown, darker around the apical pore. Spores at first hyaline and continuous, then turning brown and becoming 1-septate below the middle, some with a second transverse septum higher up and others with 1 longitudinal septum in the middle cell, or the upper and larger half with two oblique septa, smooth, more or less piriform, widely rounded at apex, attenuate to the subtruncate base, $12\text{--}16\mu \times 7\text{--}10\mu$, not constricted at the septa.

(241) *CONIOTHYRIUM OLIVACEUM* Bon. in Fuckel, *Symb. Myc.*, p. 377.

Cooke, *Handb. Austr. Fungi*, 1892, p. 352, records this species for Australia, his record being based upon Martin 701 on the bracts of *Leptospermum laevigatum*, Victoria, preserved in Herb. Kew. This specimen has been re-examined; the only fungus present is a species of *Hendersonia*.

Pycnidia rather closely scattered over the dead bracts, immersed with only the apical pore reaching through the epidermis, black, glabrous, thin-walled, globose, about 70μ diam.; wall of apparently only a single layer of brown parenchyma, paler around the base and darker to almost black around the apical pore. Conidiophores not seen. Conidia rounded-fusoid, straight or slightly bent, soon becoming rather dark brown, smooth, at first continuous, then with 1–3 cross septa, not constricted, $10\text{--}16\mu \times 7\text{--}8\mu$; the apex broadly rounded, the base slightly truncate.

It is obvious from this material that Cooke had only the very young, non-septate spores, and therefore the record of *C. olivaceum* must be deleted.

A second specimen, Martin, s.n., on *Eucalyptus* leaf, Victoria, in Herb. Kew, contains no *Coniothyrium*, but a pycnidial fungus with hyaline spores $8\text{--}10\mu \times 3\mu$, cylindric with rounded ends; accompanied by immature perithecia.

(242) *DIPLODIA ACACIARUM* Hansf., n. sp.

Pycnidia immersa, in maturitate lenissime erumpentia, dense dispersa, atra, globosa, usque ad 150μ diam., glabra, apice minute perforata; paries pluristratosus, firme carnosus, intus hyalinus. Sporophora hyalina, simplicia, recta, continua, usque ad $12\mu \times 2\text{--}3\mu$. Conidia terminalia, singula, obovata vel ellipsoidea, apice late rotundata, basi subtruncata, atrobrunnea, 1-septata, interdum subconstricta, $18\text{--}24\mu \times 11\text{--}15\mu$.

Hab. in ramulis emortuis *Acaciae decurrentis*, Stirling West, South Australia, 7.1954, E. H. Ising, WARI 3887.

Pycnidia immersed, becoming slightly erumpent at the apex when fully mature, closely scattered, black, globose, glabrous, up to 150μ diam., with minute round apical pore. Wall of several layers of dark brown-black parenchyma, firm but not carbonous, lined inside with layers of subhyaline parenchyma with thin walls, the innermost layer bearing the sporophores. These are more or less cylindric, simple, hyaline, straight, continuous, up to $12\mu \times 2\text{--}3\mu$, each forming a single apical conidium. Conidia obovate to ellipsoid, widely rounded at the apex, the base often distinctly truncate, dark brown, smooth, 1-septate in the middle and sometimes slightly constricted, $18\text{--}24\mu \times 11\text{--}15\mu$.

(243) *DIPLODIA GAUBAE* Petrak, *Sydowia*, 8:413, 1954.

Type on *Alyxia burifolia*, Twofold Bay, New South Wales, Gauba 705; also in Herb. Kew on the same host, Brighton, Victoria, Campbell 375-a.

(244) *DOTHIORELLA AMYGDALI* Cooke & Mass., *Grevillea*, 19:91, 1891.

Type on *Prunus amygdalus*, Victoria, Martin 672 in Herb. Kew.

Pycnidia innate-erumpent, one or more on a stroma which bursts through transverse slits in the outer bark, black, smooth, with conical upper part and flat black ostiole, glabrous, 300μ or more diam.; wall hard and brittle, composed of several layers of dark brown angular parenchyma. Loculus single, and contents white, consisting of a rather gelatinous mass of conidia exuding through the apical pore as a mass, not a tendril. Conidia single and acrogenous on simple, hyaline, cylindrical conidiophores $10-20\mu \times 3-4\mu$, continuous, growing out from the cells of the innermost layer of the pycnidial wall. Conidia ellipsoid, smooth, bluntly rounded at both ends, continuous, hyaline, $22-30\mu \times 10-13\mu$, the wall about 1μ thick, contents granular and with a rather large central vacuole; finally after discharge turning brown and becoming 1-septate in the middle, not constricted.

These characters are those of the genus *Botryodiplodia*, and unless an earlier name can be found, the present fungus can be transferred as *BOTRYODIPLODIA AMYGDALI* (C. & M.) Hansf., n. comb.

(245) *DOTHIORELLA BANKSIAE* Hansf., n. sp.

Maculae epiphyllae, effusae, pallidae, indefinitae, arescentes, subinde zona dilute brunneo circumdatae. Pycnidia dispersa, immersa, atra, globosa, usque ad 250μ diam., glabra; paries firme membranaceus, pluri-stratosus, levis, glabrus, intus in stratas hyalinas transeuns. Conidiophora erecta, recta, simplicia, continua, hyalina, $20\mu \times 4-5\mu$, sursum attenuata, apice acuta. Conidia acrogena, singula, hyalina, ellipsoidea vel elongato-ovoidea, continua, levia, $17-22\mu \times 6-8\mu$, intus granulosa.

Hab. in foliis *Banksiae integrifoliae*, Melbourne, Victoria, Campbell 403 in Herb. Kew.

The specimen is filed in Herb. Kew as the type of "*Sphaerella banksiae* Cooke & Mass.", of which not a sign could be detected on it.

Pycnidia scattered on indefinite pale areas of the leaf, usually towards the apex, completely immersed, but eventually the larger ones elevating the epidermis, which is pierced by the apical pore; sometimes the elevated epidermis is irregularly ruptured and secedent, leaving the naked pycnidia; black, globose, to 250μ diam. The pale areas dry out later and may be surrounded by an indefinite pale brown marginal zone around the whitish centre. Pycnidial wall tough and firm membranous, of several layers of polygonal brown parenchyma, smooth and glabrous outside, lined with inner layers of subhyaline or hyaline smaller cells; the innermost of these produces a palisade of conidiophores; these are erect, straight, simple, continuous, hyaline, $20\mu \times 4-5\mu$ wide at the base, attenuate upwards to a narrow apical sterigma, which swells out at its end to form the single terminal conidium. Conidia ellipsoid to ovate, rounded at the apex, slightly attenuate to a minute basal hilum, hyaline, smooth, thin-walled, $17-22\mu \times 6-8\mu$, with granulose contents.

(246) *HENDERSONIA EUCALYPTI* Cooke & Harkn., *Grevillea*, 9:128, 1881.

The only Australian specimen under this name in Herb. Kew is on leaves of *Eucalyptus* sp., Gippsland, Victoria, 1886 "No. 3", collector unknown, and Cooke himself regarded his determination as doubtful.

Pycnidia buried in a warty leafspot, much like that produced by species of *Elsinoe*; black, not erumpent, opening through the stomata or sometimes above an oil gland, appearing as black dots, globose, $100-150\mu$ diam.; wall rather thick, brittle, carbonaceous, especially around the apex. Conidia subfusoid with rounded ends, dark brown, rather thick-walled ($1-2\mu$), becoming 1-, and then 3-septate, not constricted, smooth, $15-19\mu \times 7-9\mu$.

This was compared with the type of *H. eucalypti*, Harkness 2039, from California; in the latter the pycnidia are scattered loosely over the leaf, and are slightly erumpent, raising the epidermis but not actually breaking it; the conidia are thin-walled, with thick septa, and when old the outer walls collapse as in *Coryneopsis* (*Melanconiales*); they measure $10-17\mu \times 6-8\mu$.

It is thus evident that the Australian material does not correspond to that from California, but it would be best to await further collections before describing it as a new species.

(247) RHYTISMA HYPOXANTHUM B. & Br., PROC. LINN. SOC. N.S.W., 5:89, 1880.

Type in Herb. Kew, Bailey 701 on unknown leaves, Brisbane; also Bailey 850.

Brittlebank in his Ms. Catalogue of Australian Fungi records the host as *Cudrania javanensis*, but I have not been able to verify this determination.

Leafspots brown, rounded or irregular, to 25 mm. diam., thickened, smooth with scattered, slightly depressed, black fructifications on the upper surface. These originate in the epidermis, which is filled completely with a black clypeal stroma, extending below into the mesophyll of the much hypertrophied leaf as loose hyaline hyphae. The original black stroma splits horizontally, the upper part, still covered by the intact cuticle and about 10μ thick, lifts, while the lower half, $10\text{--}20\mu$ thick, develops an internal thin layer of small cells, on which the close palisade of vertical conidiophores arises. Conidiophores $10\text{--}15\mu$ long, simple, more or less straight, about 2μ wide at the base, gradually tapering to the apex, which abstricts single conidia, continuous, hyaline. Conidia when mature yellow-brown, darker brown in mass, ovate-ellipsoid, straight, continuous, smooth, $4\text{--}6\mu \times 2\text{--}2.5\mu$.

The fructifications are rounded, shining black, somewhat rugulose on the surface, $1\text{--}2\text{ mm.} \times 1\text{ mm.}$, apparently opening by an irregular slit, as those most mature show an elevated irregular line down the middle; not hysteroid in appearance. No sign of any ascus stage was found.

In Herb. Kew the specimens are labelled "*Melasmia hypoxantha* Berk." and it would appear that this is the best name for this fungus, until its ascus stage becomes known.

(248) PELTOSOMA EUCALYPTI Hansf., n. sp.

Maculae saepe numerosae, dispersae, amphigenae, dilute brunneae, rotundatae, usque ad 10 mm. diam. vel confluentes. Mycelium externum ex hyphis dilute brunneis, flexuosis, saepe 2-6-connatis, exhyphopodiatis, 3μ cr., cellulis usque ad 15μ longis, dense rotundato-reticulatis compositum, per stomata in mesophyllum penetrans. Pycnidia in mycelio dispersa, superficialia, membranacea, olivacea, plano-convexa, demum discoidea, usque ad 150μ diam.; paries superior unistratosus, haud radiatus, ex hyphis flexuosis compositus, mox irregulariter disrumpens et evanescens; paries inferior dilute olivaceus, membranaceus, haud radiatus. Conidia atro-brunnescentes, in massa nigra, ovata vel ellipsoidea, apice rotundata, basi subtruncata, levia, transverse 3-septata, haud constricta, $15\text{--}22\mu \times 6\text{--}8\mu$, saepe curvula.

Hab. in foliis *Eucalypti oleosae*, Pinnaroo, 9.1924, G. Samuel, WARI 384.

Leafspots often numerous, scattered, amphigenous, pale brown without a dark marginal line, rounded, up to 10 mm. diam. or confluent. Mycelium superficial over the spot, of pale brown, septate, exhyphopodiate hyphae, 3μ thick, the cells up to 15μ long, irregularly branched, crooked, and often in strands of 2-6 hyphae following the depressions of the host cuticle, forming rounded meshes of a close reticulum. Branches from the external mycelium fill the stomatal openings with dark plugs of pseudo-parenchyma, from which hyaline hyphae enter the stoma and penetrate the mesophyll, not forming haustoria in the host cells.

Pycnidia scattered on the external mycelium, completely superficial, up to 150μ diam., at first flattened-convex and with an upper membranous wall of one layer of crooked hyphae similar to those of the mycelium, not radiate, the wall soon splitting irregularly into fragments and disappearing almost completely, leaving the mass of conidia exposed, so that the mature fructification resembles a sporodochium. Lower pycnidial wall pale olivaceous to subhyaline, membranous, composed of agglutinate hyphae, not radiate in structure. The conidia are formed at the apices of short cells arising from the lower wall of the pycnidium, scarcely differentiated as conidiophores; the mature fructification consists almost entirely of a pulvinate to subglobose mass of

conidia, appearing black in colour. Conidia at first hyaline, soon turning dark brown, formed singly on the parent cells, not catenulate, ovate to ellipsoid, rounded at the apex, slightly truncate at the base, smooth, transversely 3-septate, not constricted, $15-22\mu \times 6-8\mu$, often slightly bent.

(249) *PHLEOSPORA MYOPORI* (Cooke) Hansf., n. comb.

= *Septoria myopori* Cooke & Masee, *Grevillea*, 16:113, 1887.

Type in Herb. Kew: Campbell 414 on *Myoporum insularis*, Victoria.

The type material contains only two leafspots: rounded, sunken, 1-2 mm. diam., surrounded by a brown line, papery, whitish. Acervuli scattered on the upper surface, minute, appearing black, the colour due to the dark basal stroma, immersed, erumpent by irregular breaking of the overlying epidermis, $100-150\mu$ diam. Basal stroma flat, forming a close palisade of erect, simple, continuous, subhyaline conidiophores, dark brown in mass, $30-35\mu \times 3-3.5\mu$, each forming a single apical conidium. Conidia hyaline, straight or usually bent to flexuous, continuous, the ends attenuate-rounded, smooth, $40-50\mu \times 3-3.5\mu$. There is no trace of a pycnidial wall or apical pore.

(250) *SEPTORIA MARTINII* Cooke, *Grevillea*, 19:5, 1891.

Type on *Senecio bedfordii*, Victoria, Martin 461 in Herb. Kew.

Leafspots epiphyllous, greyish-brown, more or less confluent, irregularly rounded and bordered by a black margin about 1 mm. wide, the spots varying from 2 to 15 mm. diam.; surface smooth and dotted with the black punctiform pycnidia. Pycnidia subepidermal, immersed with only the apical pore penetrating the epidermis, black, globose, smooth, membranous, $60-100\mu$ diam.; finally the epidermis often secedent together with the apex of the pycnidium, which is then left widely open. Spores fusoid, curved or straight, hyaline, $20-40\mu \times 3\mu$, transversely 3-9-septate, not constricted, smooth, mostly $15-25\mu$ long, the ends attenuate-rounded. Conidiophores not evident.

The second collection mentioned by Cooke, on *Senecio* sp., Bass River, C. Walter, May 1891, contains only a species of *Phyllosticta*, with ellipsoid spores $6-8\mu \times 3\mu$; the leafspots are also smaller and of different appearance.

(251) *SPHAEROPSIS PHOMATOIDEA* Cooke & Mass., *Grevillea*, 18:49, 1890.

Type on leaves of *Eucalyptus* sp., Victoria, Martin 473, in Herb. Kew.

The only recognizable fungus on this specimen agrees with *Readeriella mirabilis* Sacc.; the Kew folder also contains a sketch by Cooke of the tetrahedral spores of this species, together with the "pale amber" ovate spores of "*Sphaeropsis phomatoidea*", roughly half the size of those of *Readeriella*, and also of elongate cylindric hyaline spores. The last were present in my own mounts from the specimen, but their origin could not be traced; no sign was found of the spores Cooke attributed to *S. phomatoidea*. Consequently the most that can be said of Cooke & Masee's species is that it is very doubtful, and until further collections can be obtained to match his description, the name must be abandoned.

(252) *STAGONOSPORA ORBICULARIS* Cooke, *Grevillea*, 20:6, 1892.

Type on dead leaf *Eucalyptus* sp., Lilydale, Victoria, Campbell 740, in Herb. Kew.

Leafspots rounded, about 3 mm. diam., flat, smooth, grey-brown, surrounded by a darker brown border zone about $\frac{1}{2}$ mm. wide, sometimes confluent, each with a loose group of black punctiform pycnidia around the centre. Pycnidia immersed, globose, glabrous, with only the apical pore piercing the epidermis, about 150μ diam.; wall membranous, pale brown, darker around the apex, thin, parenchymatous. Conidia elongate fusiform with subacute ends, bent to strongly arcuate, 3-5-septate, very slightly constricted, hyaline, smooth, thin-walled, $50-70\mu \times 3-4\mu$.

The same fungus has recently been collected on *E. macrorhynchus*, Clare, S. Australia, WARI 4583, leg. P. Birks.

(253) *CORYNEOPSIS MICROSTICTA* (B. & Br.) Grove, *Journ. of Bot.*, 1932, p. 34.

On dead bark of *Cydonia japonica* ("Japanese Flowering Quince"), Stirling West, 7.1954, E. H. Ising, WARI 3886.

Acervuli at first completely immersed in the outer layers of the bark, finally the latter splitting and then the conidial mass becoming erumpent and resembling a black pycnidium. There is no outer wall around the conidial mass and the conidia do not form cirrhi. Acervuli up to 200μ diam., loosely scattered over large areas. Conidiophores forming a rather loose palisade, erect, hyaline, simple, continuous, about 15μ long by 1.5μ thick, forming single apical conidia. Conidia at first hyaline enlargements of the apex of the sporophores, soon becoming yellowish and finally light brown; mature conidia subfusoid, rounded at the apex, slightly truncate at the lighter base, transversely 3-septate, smooth, $12-17\mu \times 5-7\mu$; the septa dark and thick, the outer conidial wall collapsing somewhat between them.

(254) *CYLINDROSPORIUM SAMUELI* Hansf., n. sp.

Maculae epiphyllae, brunneae, haud secedentes, usque ad 4 mm. diam., rotundatae vel irregulares, brunneo-marginatae. Acervuli subepidermales, pauci, epiphylli, irregulares, usque ad 0.5 mm. diam., epidermide rupto expositi. Conidiophora ex stromate hyalino plano oriunda, erecta, $10-15\mu \times 1.5-2\mu$, stipata, simplicia, continua. Conidia terminalia, singula, filiformia, plus minusve curvata, basi rotundata vel leniter pedicellata, sursum attenuata, apice rotundata, hyalina, levia, transverse 3-4-septata, haud constricta, $60-95\mu \times 4-5\mu$, in massa albida vel luteola.

Hab. in foliis *Eucalypti* sp. indet., Pinnaroo, South Australia, 9.1924, G. Samuel, WARI 3840.

Leafspots usually only epiphyllous, sometimes showing below as indefinite brown areas, brown, not secedent, up to 4 mm. diam., rounded or irregular, surrounded by a dark brown, thin line. Acervuli subepidermal, few on each spot, epiphyllous, becoming exposed by the lifting and laceration of the epidermis, which is stained brown but contains little sign of fungus tissue, irregular in outline, up to 0.5 mm. diam.; in section showing a flat, rather thin, hyaline, stromatic base, which forms a close palisade of erect conidiophores, $10-15\mu \times 1.5-2\mu$, simple, hyaline, continuous, each producing a single terminal conidium. Conidia filiform, more or less bent, $60-95\mu$ long, the base rounded or slightly pedicellate, about 3μ wide, the middle of conidium about $4-5\mu$ thick, attenuate upwards to $2-3\mu$ at the rounded apex, transversely 3-4-septate, not constricted, hyaline, smooth, white to yellowish in mass. The acervuli first appear as slightly darkened spots below the upper epidermis of the leafspot.

(255) *GLOEOSPORIELLA EUCALYPTI* Hansf., n. sp.

Acervuli amphigeni, *Pseudopeziza eucalypti* commixti, primo cuticula folii texti, demum erumpenti, orbiculati vel irregulares, usque ad 600μ diam. Sporophora nulla. Conidia hyalina, subcylindracea vel fusoidea, apice attenuato-rotundata et 1-setosa, prope basim 1-septata constrictaque, basi attenuata, ad septum 3-setosa. Setae flexuosae, hyalinae, usque ad $50\mu \times 1-1.5\mu$; corpus conidii circa 45μ longus, cellula superiore $35-40\mu \times 7-9\mu$, inferiore $7-10\mu \times 3-4\mu$.

Hab. in foliis *Eucalypti* spec. indet., Pinnaroo, South Australia, 9.1924, G. Samuel, WARI 3844 p.p.

Acervuli mixed with the apothecia of *Pseudopeziza eucalypti*, which represents the ascus-stage, on the same leafspots, amphigenous, similar in appearance to the apothecia when dry, covered at first by the blackened upper half of the epidermis, which soon lifts, ruptures irregularly and is finally secedent, exposing the layer of conidia. Young acervuli in section are seen to develop in or below the epidermis, which is filled in the upper part by a thin layer of black pseudoparenchyma, covered by the unaltered cuticle. Beneath this layer a thin stromatic plate of smaller parenchyma is formed, resting on the palisade tissue of the host, the lower layers being pale olivaceous, the upper ones hyaline and thin-walled. The uppermost layer of this basal stroma is conidiiferous, the conidia developing as outgrowths from the parent cells; there are no specialized

conidiophores. Each conidium consists of a large, narrowly ellipsoid terminal cell measuring $35\text{--}40\mu \times 7\text{--}9\mu$, with attenuate-rounded ends, thin-walled, smooth, hyaline, surmounted by an apical seta which appears to be quite solid and measures up to $40\mu \times 1\mu$, straight or flexuous. At the base of this large cell there is a much smaller basal cell, somewhat obconoid in shape, hyaline, $7\text{--}10\mu \times 3\text{--}4\mu$, bearing around its apex, just below the large terminal cell, three divergent setae, which are flexuous, $40\text{--}50\mu \times 1\text{--}1.5\mu$, and appear to be hollow, as there is a faint central canal staining with cotton blue. Thus these sub-basal setae would represent very narrow and elongate conidial cells, as distinct from the solid apical seta. The whole body of the conidium measures about 45μ long; in the acervulus the sub-basal setae are arranged vertically in close contact with the large terminal cell, but after the conidia have dispersed these three setae become widely divergent. The whole conidium is thin-walled, hyaline and smooth.

(256) *GLOEOSPORIUM NIGRICANS* Cooke & Mass., *Grevillea*, 19:91, 1891.

On dead leaf of *Eucalyptus pauciflora*, Australian Alps, 1891, leg. Walker, in Herb. Kew, type.

Acervuli amphigenous, not on leafspots, closely scattered, black, slightly convex, 0.25 to 0.5 mm. diam., rounded, usually separate. The upper surface is at first covered by a layer consisting of the epidermal cells of the host, filled with black parenchyma of the fungus, at length splitting irregularly, without a distinct pore. Lower wall consisting of an outer layer of brownish parenchyma, lined inside with 2-4 layers of hyaline parenchyma, forming a thin stroma, on which a close palisade of erect, straight, simple, hyaline, continuous conidiophores is formed, $10\text{--}14\mu \times 4\mu$. Conidia single and acrogenous, ovate, hyaline, continuous, smooth, thin-walled, $8\text{--}10\mu \times 5\text{--}6\mu$.

(257) *HYALOCERAS DILOPHOSPORA* Cooke, *Grevillea*, 19:5, 1891.

Type on *Leptospermum scoparium*, Port Philip, Victoria, C. French, June 1890, in Herb. Kew.

Leafspots minute, scattered, epiphyllous, consisting of single dark acervuli, at first covered by the epidermis, rounded to slightly elliptic or elongate, convex, finally irregularly dehiscent in the centre, about 0.5 mm. diam. Conidia formed on very short conidiophores, which are borne on a very thin hyaline, gelatinous, stromatic base; single, terminal, fusoid, more or less bent, mostly 4-septate, the ends attenuate, not or very slightly constricted at one or more septa, very pale brownish in mass, subhyaline individually, $25\text{--}30\mu \times 4.5\text{--}5\mu$, the apex with 2 divergent, solid, hyaline setae about $10\mu \times 1\mu$, and the base with a single seta, set rather to one side.

(258) *MELANCONIUM EUCALYPTICOLA* Hansf., n. sp.

Maculae amphigenae, rotundatae vel irregulares, usque ad 20 mm. diam. vel confluentes, griseae, brunneo-marginatae. Acervuli subepidermales, erumpenti et epidermide rupto circumdati, atro-olivacei, usque ad 120μ diam.; strato basali tenuiter stromatico, olivaceo, sursum in conidiophora erecta, stipata, dilute olivacea vel subhyalina, usque ad $60\mu \times 2.5\text{--}3\mu$, simplicia, septata transeuns. Conidia acro-pleurogenea, singula, ovata, atro-brunnescentia, levia, continua, apice rotundata, basi subapiculata vel truncata, $5\text{--}7\mu \times 3\text{--}4\mu$.

Hab. in foliis *Eucalypti fasciculosae*, South Australia, 1924, G. Samuel, WARI 3846.

Leafspots amphigenous, rounded or irregular, up to 20 mm. diam. or confluent and larger, grey with a narrow dark brown border on the upper surface, on the lower side of the leaf the spot showing as a smaller grey area with wider brown margin. Acervuli subepidermal, soon rupturing the epidermis, which remains surrounding the margin, black to dark olivaceous, up to 120μ diam., consisting of a thin stromatic layer surmounting the palisade layer of the leaf and extended above into an erect close palisade of pale olivaceous to subhyaline conidiophores, of which the outermost are the oldest and longest. Conidiophores up to $60\mu \times 2.5\text{--}3\mu$, simple, closely septate, straight or undulate, forming conidia singly on short sterigmata of which one grows out from each of the upper cells from its apex, and remains after the conidium has shed as a slightly

prominent scar. The terminal cell of the conidiophore often bears an apical conidium on a similar sterigma, though there is no evidence that the conidiophore grows past this to form others in succession, as conidia lower down the conidiophore may be of the same age or even younger than the terminal one. Conidia single, one from each of the upper cells of the conidiophore, ovate, soon turning dark olivaceous-brown, smooth, continuous, rounded at the apex and slightly apiculate or truncate at the base, $5-7\mu \times 3-4\mu$, the wall $0.5-0.75\mu$ thick.

(259) MYXOSPORIUM ACERINUM Peck, *Bull. Torrey Bot. Club*, 36:338, 1909.

Acervuli closely scattered on twig, hidden beneath the bark, up to 150μ diam., becoming slightly conical and finally the conidia exuding from the ruptured bark in the centre, as a white to pale yellowish small mass. In section the acervulus is flat below, with a thin conidiiferous basal stroma, hyaline inside, the outer wall next the wood or within the cortex pale olivaceous; upper wall not complete, very thin, with no sign of a pore; the covering bark of the host is ruptured irregularly in the centre. Conidiophores only on the flat base of the acervulus and hardly distinguished as such, being mere prolongations of the upper stroma cells, cylindric, up to $15\mu \times 4-5\mu$, obtusely conoid at the apex, where single conidia are formed, not separated from the basal cell. Conidia hyaline, ellipsoid to cylindric with rounded ends, the base very slightly truncate-apiculate, continuous, smooth, thin-walled, with finely granular contents, $25-35\mu \times 9-12\mu$.

On dead twigs of *Acer* (? *rubrum*), Stirling West, South Australia, E. H. Ising, WARI 3845.

(260) MYXOSPORIUM CORYLEUM (Sacc.) Died., *Krypt.-Fl. Mark Brandenb.*, 9:794, 1914.

On dead branches of *Corylus avellana*, Stirling West, South Australia, 8.1954, E. H. Ising, WARI 3897.

Pustules scattered loosely, immersed, white, up to 500μ diam. or more, raising and splitting the epidermis longitudinally along the branch. Sporophores erect, forming a close palisade, at first about $4-5\mu$ thick and $10-15\mu$ long, elongating and becoming narrower as the terminal spore matures, simple or once furcate at the base, arising from a rather thin, whitish, basal stroma. Spores hyaline, oblong with widely rounded ends, the base slightly apiculate in immature spores, thick-walled ($1-1.5\mu$), straight, cloudy-granulose within or sometimes with a single large guttula, $26-33\mu \times 10-14\mu$.

(261) BACTRIDIUM FLAVUM Kunze & Schmidt, *Mykol.*, Hefte 1:5, 1817.

On wood, Queensland, Bailey 593 in Herb. Kew.

Sporodochia loosely scattered, pale yellow to white, more or less hemispherical, $1-1.5$ mm. diam., consisting of a solid mass of hyaline pseudoparenchyma, from which arise divergent, dichotomously branched conidiophores forming an almost solid palisade over the surface. Conidiophores hyaline, thin-walled, septate, to $180\mu \times 6-7\mu$, often swollen at apices to 9μ , smooth, not constricted at septa. Conidia elongate fusoid with rounded apex and truncate base, single and terminal on branches of conidiophore, which do not grow past the first conidium to form others, but branch from below; $160-180\mu \times 30-35\mu$, straight, sometimes very slightly constricted at one or more septa, rather thick-walled ($2-2.5\mu$), usually 6-septate, the middle cells largest, quite smooth and hyaline under microscope, yellow to pale honey-coloured in mass; separating from conidiophore by evagination of the terminal septum of the latter, that of the conidium remaining plane. There is no vestigial "ring" around the base of the conidium as in *Diploidium*.

(262) CEPHALOSPORIOPSIS PARASITICA Hansf., *Proc. Linn. Soc. Lond.*, 155:42, 1943.

Forming a thin white, loose, mouldy growth over the colonies of *Englerulella homalanthi*, Queensland, Bailey in Herb. Kew.

Hyphae hyaline, 2μ thick, septate. Conidiophores erect lateral branches on mycelium, straight or finely torulose towards apex, continuous, gradually attenuate to the open apex, functioning as phialides, each producing an elliptical head of 2-10 parallel conidia. Conidia hyaline, narrow fusoid, slightly bent, smooth, indistinctly 1-septate in middle, not constricted, ends rounded-attenuate, $9-12\mu \times 2\mu$.

(263) *MACROSPORIUM PEPONICOLUM* Rabh., *Isis*, 1867, p. 101.

The only Australian record is that of Cooke, *Handb. Austr. Fungi*, 1892, p. 381, based on Bailey 625, on fruit of *Carica Papaya*, Brisbane, Queensland, in Herb. Kew.

The fruit shows rounded, sunken, whitish areas, with others brownish, up to 20 mm. diam., without definite margin. The edges of these areas are covered with a brown-olive mouldy growth, which is probably not the cause of the diseased appearance; this growth is entirely that of *Alternaria tenuis*, sensu Bolle; no other spores of any kind were found on the specimen. This Australian record should therefore be deleted.

(264) *SPORIDESMIUM DENSUM* (Sacc. & Roum.) Mason & Hughes, *Canad. Journ. Bot.*, 31:618, 1953.

On dead wood of *Rhus* sp., Stirling West, 8.1954, E. H. Ising, WARI 3899, pr. p.

The fungus forms a dark olive-brown mould on the surface of the substratum, consisting of tufts of short erect conidiophores, each bearing a single terminal conidium. Conidiophores scattered singly or 3-6-fasciculate, erect, dark brown, simple, up to $50\mu \times 5-6\mu$, 2-4-septate and constricted at one or more septa, truncate, at the apex after the conidium has fallen off, leaving a very thin, hyaline, central scar, through which the conidiophore continues growth; no definite ring remains on the older conidiophores. Conidia fusoid, dark brown, rather suddenly narrowed to the flat, truncate base which is $4-5\mu$ diam., widest in the lower third (to 12μ) and gradually attenuate upwards to about $3.5-4\mu$ at the paler, rounded apex, straight or bent, thick-walled and dark brown below, the wall thinner towards the apex, smooth, up to 115μ long, transversely 13-20-septate, not constricted at any septa.

(265) *SPORIDESMIUM MELANOPUS* B. & Br., *Ann. Nat. Hist.*, no 455; Cooke, *Handb. Austr. Fungi*, 1892, p. 378.

On wood, Victoria, without locality or collector's name, in Herb. Kew; the wood has the appearance of Eucalyptus wood from a paling fence.

Colonies effuse, thin to dense, forming a superficial mouldy growth on the wood, black; hyphae in irregular strands on and in the wood, olivaceous, septate, much branched. Conidia erect, closely scattered, each terminal on a short erect lateral branch of the vegetative mycelium not differentiated as a conidiophore. Conidia subopaque black-brown, irregularly obclavate and attenuate above into a narrower portion, the surface closely and irregularly dark-verruculose; often bent, the base rounded and sessile on the very short "stalk", the apex attenuate-rounded, but usually muriform in mature conidia, unlike that of *Alternaria* spp.; mature conidia $60-110\mu \times 20-30\mu$ in widest part, attenuate upwards to $10-15\mu$ wide at apex, transversely multi-septate and with one or more longitudinal septa, constricted at many of the transverse septa.

(266) *STEMPHYLIUM PULCHRUM* (Berk.) Sacc., *Syll. Fung.*, 4:521, 1886.

= *Mystrosporium pulchrum* Berk., *Hooker's Journ. Bot.*, 1845, p. 70.

On rotten wood, Swan R., Western Australia, Drummond 270 in Herb. Kew, type.

Colonies covering the wood with a thin black growth, consisting of a subhyaline to pale olivaceous septate mycelium, bearing numerous conidia, each on a short lateral peg; the pegs are in groups of 1-5 on slightly swollen, subhyaline, terminal or intercalary cells of the mycelium. Conidia single and terminal on the peg, which is continued upwards into a very short stalk of the conidium, the stalk being shed with the conidium and leaving the peg still attached to the mycelium; conidia commence as a swelling of a single cell at the end of the stalk, dividing in all directions to form the mature conidium. Conidia when mature consist of 3-5 irregular chains of cells, often hardly recognizable as chains owing to distortion, dark olive-brown, rather thick-walled, subglobose but quite firmly joined together, each cell about $10-14\mu$ diam., smooth or indistinctly granulose on outer surface; the whole conidium elongate ellipsoid to cylindric or quite irregular, up to $70\mu \times 25\mu$; smaller conidia are almost subglobose.

(267) *CERCOSPORELLA HALORAGIDIS* Hansf., n. sp.

Maculae epiphyllae, plerumque apicales vel marginales, rufae, zono luteo circumdatae, usque ad 2 mm. diam., in hypophyllo atrobrunneae. Conidiophora ex stomatibus folii dense fasciculati, in massa punicea; simplicia, continua, recta vel curvata, usque ad $30\mu \times 4.5\mu$, apice conidiifera. Conidia singula, filiformia, hyalina, in massa punicea, basi truncata, sursum attenuata, apice rotundata, circa 1.5μ cr., plus minusve curvata, usque ad $200\mu \times 3.5-4\mu$, multiseptata, haud constricta, levia.

Hab. in foliis *Haloragidis* spec. indet., Mt. Lofty, South Australia, 4.1954, Hansford, WARI 3789.

Leafspots on upper surface rather indefinite, usually terminal or marginal, bright red and surrounded by a yellowish zone; on the lower surface dark brown. Conidiophores emerging through the stomata from a stromatic sub-stomatal mass up to 60μ diam., consisting of pale salmon-coloured parenchyma, and bearing on the free surface above the stoma a tight palisade of conidiophores, also salmon-pink in mass; conidiophores hyaline, simple, continuous, straight or bent, up to $30\mu \times 4.5\mu$, bearing single conidia at the apex. Conidia filiform, more or less bent to flexuous, pale salmon in mass, hyaline individually, truncate at the base, gradually attenuate upwards into a very narrow and elongate apex about 1.5μ wide, up to $200\mu \times 3.5-4\mu$ near the base, multi-septate, not constricted, smooth.

(268) *ISARIA RADIANS* Berk., *Flora Tasmania*, 2:271, 1860.

The type specimen in Herb. Kew, ex Herb. Berkeley, on wood of unknown plant, Tasmania, has the following characters:

Tufts 18-22 mm. diam., consisting of radiating synnemata from a common centre, now all flattened, but possibly more or less erect in fresh state, not associated with any gall on host; fawn in colour, slightly paler towards the tips, irregularly branched above and often dichotomous, forming a loose colony-mass, penicillate-divergent above, composed of parallel brownish-yellow hyphae, the brown dye soluble in lacto-phenol. The individual hyphae of the synnema become loosely divergent above and 1-2-verticillate branched towards the apex, each verticil consisting of 2-6 branches, these sometimes again verticillate. The ultimate branches are not phialiform, parallel or slightly divergent, hyaline, continuous, $12-20\mu \times 3\mu$, with the protoplasm condensed at base and apex, leaving a large vacuole in the middle; the apex slightly roughened with very slightly prominent circular conidial scars, on each of which a single conidium is formed; conidia adherent in globose heads at the end of each verticil of conidia-forming cells. Conidia ovate to elliptic, hyaline, smooth, thin-walled, continuous, $4-5\mu \times 2.5-3\mu$.

(269) *DIDYMOBOTRYOPSIS ISINGII* Hansf., n. sp.

Synnemata per rimas irregulares corticis erumpentia, massam botryosam albidam efformantia, usque ad 2 mm \times 1 mm., vix prominentia; clavae divergentes, $400-600\mu \times 100\mu$, cylindraceae, apice rotundatae, firme carnosae, haud gelatinosae, albae, intus ex hyphis hyalinis, parallelibus, septatis, $1.5-2\mu$ crassis compositae. Sporophora erecta, cylindracea vel phialiformes, hyalina, continua, $20-30\mu \times 3-4\mu$, saepe curvula. Conidia acrogenae, obovata, apice late rotundata, deorsum leniter attenuata, basi subtruncata, 1-septata, haud constricta, hyalina, levia, $6-8\mu \times 3-3.5\mu$.

Hab. in ramulis emortuos *Viburni opuli*, Stirling West, South Australia, 8.1954, E. H. Ising, WARI 3898.

Forms small white botryose masses erumpent through small irregular cracks in the bark, sometimes with a central stalk portion penetrating the bark, scarcely projecting above the surface of the substratum, up to 2 mm. \times 1 mm. The clavae are divergent from a common stromatic base, $400-600\mu \times$ about 100μ diam., cylindric with rounded apex, firmly fleshy, not gelatinous, white, slightly mealy on the surface with the conidia. The interior of each clava is made up of more or less parallel, hyaline, septate hyphae, without clamp connections, somewhat interwoven, $1.5-2\mu$ wide, irregularly branched below the surface and forming terminal and lateral sporophores which are more or less erect to the surface and form a close palisade. Sporophores cylindric to phialiform,

hyaline, continuous, $20-30\mu \times 3-4\mu$, attenuate upwards to about 1.5μ , often bent, forming a single terminal conidium, and after this has been shed, often growing past its slightly prominent scar to form others in succession, so that the apex of an old sporophore shows a close series of slightly projecting lateral scars. Conidia formed each on a very short and narrow sterigma, which eventually breaks in the middle to leave part on the sporophore as the conidial scar, and the remainder as the thickened, truncate base of the conidium; obovoid, widely rounded at the apex, slightly attenuate downwards, 1-septate, not constricted, hyaline, smooth, thin-walled, $6-8\mu \times 3-3.5\mu$.

(270) *HARPOGRAPHIUM QUATERNARIUM* Cke. & Mass., *Grevillea*, 16:3.

On twigs of *Passiflora* sp., Brisbane, Queensland, Bailey 512 in Herb. Kew, type.

Synnemata in scattered tufts, radiating from a common base, brown to dark brown, paler towards the clavate and loosely penicillate tips, up to 0.5 mm. long; composed of parallel yellow-brown hyphae, septate, dense below and covered with minute brown granules; hyphae divergent and irregularly or sub-verticillately branched above, somewhat looser and divergent. Ultimate conidiiferous cells in verticils of 2-4, slightly divergent, cylindric, straight or slightly bent, up to $20\mu \times 2.5-3\mu$, not phialiform. Conidia single on minute sterigmata around the apex of the parent cell, the sterigmata about $2-3\mu \times 1\mu$, apparently solid when the conidium is mature, from 1-4 on each parent cell, disappearing entirely after the conidium has been shed, and not noticeable on the base of the shed conidium. Conidia fusoid, hyaline, continuous, smooth, straight, up to $10\mu \times 2-3\mu$, the ends attenuate-rounded, or the base more acute than the apex; the conidia commence as globose swellings of the ends of the sterigmata.

(271) *CRYPTOCORYNEUM NEOLITSEAE* Hansf., n. sp.

Maculae minutae, atrobrunneae, amphigenae, haud secedentes. Sporodochia hypophylla, singula in centro macularum, usque ad 200μ diam. et ad 120μ alt., erumpentia, atrobrunnea, pulvinata, parenchymatica. Conidiophora erecta, simplicia, 1-3-septata, dense stipata, atrobrunnea. Conidia singula, terminalia, brunnea, recta vel curvula, cylindracea, transverse 5-10-septata, haud constricta, levia, apice rotundata, basi subtruncata, $40-60\mu \times 7-8\mu$.

Hab. in foliis *Neolitseae dealbatae*, Cunningham's Gap, Queensland, Langdon 1622.

Leafspots minute, dark brown, showing on both surfaces, not secedent. Sporodochia hypophyllous, single in centre of leafspot, developing from a hyaline parenchymatous stroma in the mesophyll occupying most of the leaf thickness and including the remains of host cells; near the lower surface the stroma cells become brownish and finally grow out through the broken epidermis to form an irregularly pulvinate mass above the leaf surface, of dark brown parenchyma, the whole mass up to 200μ diam. and to 120μ high, appearing black. The outer stroma cells develop into short cylindric conidiophores, each consisting of 2-4 cells. Conidia single and terminal, cylindric, brown with slightly paler ends, straight or slightly bent, the apex rounded and sometimes clavulate, the base subtruncate, transversely 5-10-septate, not constricted, smooth, $40-60\mu \times 7-8\mu$.